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Present Foreign Payments Practices in the United States

Alfred H. Von Klemperer *

FOREIGN PAYMENTS PRACTICES in the United States do not differ, except in technical details, from those in other countries which are active in international trade and finance. In contrast to most other countries, however, they are not affected by domestic governmental restrictions [1] since residents of the United States are entirely free to make or accept foreign payments and to contract debts or accumulate assets in foreign countries. As a result of its favorable trading position and large gold reserves, the United States has not been faced with the problems which, in many other countries, have been regarded as a justification for exchange control, and at present it has only one direct restriction on foreign payments—i.e., that affecting Chinese and North Korean interests—and various restrictions on merchandise exports and imports. All of the existing restrictions, however, are generally motivated by strategic or protective considerations and (with the exception of those affecting China and North Korea) involve no direct restrictions on the making or receiving of foreign payments. Most foreign payments in the United States are, therefore, effected along *traditional* lines in whatever manner experience has proven to be most practical for the type of merchandise or financial transaction involved. A number of *nontraditional* practices, however, have developed in recent years as the result of trade and payments restrictions established by foreign Governments. While these nontraditional practices apply to only a small part of foreign payments, they have acquired some importance and will be discussed in some detail in a separate section of this paper.

* Mr. Von Klemperer wrote this paper while acting as technical assistant in the Exchange Restrictions Department of the International Monetary Fund, on leave from his position as foreign exchange trader and analyst at the Federal Reserve Bank of New York. He is at present connected with J. P. Morgan & Co., Inc., New York City. The views expressed are his own and do not reflect those of his past or present employers. The paper has been revised to take account of the abolition of Canadian exchange regulations and other changes which have occurred since it was originally written.

[1] With the exception of the exporting and importing of gold which is regulated by the Government.

Traditional Payments Practices

Payments methods

Most foreign payments in the United States are made through regular banking channels by means of the traditional payments methods. "Clean" payments (i.e., those not conditioned upon the delivery of commercial documents or other requirements) to foreign countries are usually effected in one of the following ways:

(a) Cable transfers (where a U.S. bank requests its foreign correspondent by cable to make a payment either out of the former's foreign currency balance or against reimbursement in dollars by credit to the latter's dollar account);
(b) Airmail or regular mail transfers (same transaction as in (a), except that instructions are forwarded by mail);
(c) Drafts (where the U.S. bank draws a bank draft on its foreign banking correspondent to the order of a foreign beneficiary; reimbursement is the same as in (a)).

The amount and type of exchange sold by the U.S. banks to their customers are limited only, if at all, by regulations abroad or by the banks' own limitations. No control is maintained by the U.S. Government (apart from that on payments by means of gold), and the form of payment chosen is entirely at the discretion of the customer and his bank.

Purposes of foreign payments

In making or receiving foreign payments, the U.S. banks deal generally with three types of customers which are, in the order of their importance, (a) exporters and importers, (b) individuals or corporations desiring to make or receive nontrade financial payments, and (c) speculators.

Export and import transactions account for the bulk of foreign payments. The methods of financing foreign trade in the United States are basically the same as those employed in other countries which are active in international trade. In contrast to many foreign countries, however, the methods employed (including in particular the question whether payment is to be in U.S. dollars or foreign currency) are not prescribed by the Government, but are based on the requirements in each case (market conditions, creditworthiness, etc.) and are entirely a matter of agreement between the customer and his bank. Special requirements exist only for foreign shipments financed under foreign aid programs, such as those of the Export-Import Bank, the International Bank for Reconstruction and Development, and Mutual Se-

curity Agency (ECA). The purpose of these special requirements, however, is largely to guarantee uniformity of procedure rather than to assume exchange "control" over the actions of a U.S. shipper.

Specifically, the principal methods of paying for U.S. exports and imports are (a) export and import commercial letters of credit, (b) documentary drafts, (c) advance cash payments, (d) open account basis, and (e) consignment basis.[2]

The use of export letters of credit has increased considerably since World War II because such letters protect the shipper not only from the credit risk of shipping to a war-devastated country, but also from the possibility of changes in exchange control regulations abroad. Once the U.S. shipper has obtained an irrevocable letter of credit in his favor confirmed by a prime U.S. bank, he need no longer worry as to whether the foreign authorities will allocate exchange when the merchandise reaches the foreign country several months after the date of his contract.

A large percentage of U.S. foreign trade is billed in U.S. dollars, owing to (a) the large world-wide demand for U.S. goods, (b) the insistence of many U.S. exporters and importers on dealing on a dollar basis because of their lack of foreign exchange experience and of confidence in exchange stability abroad, and (c) the regulations of some countries which require U.S. dollar payments for their trade with the United States. The very considerable bearings of this fact on the exchange market and on payment practices are described below.

Foreign payments for account of individuals are usually small individually but, in the aggregate, they represent a fairly important function of the banks located in the larger cities with a considerable foreign-born population. The outflow of such payments from the United States is considerably larger than the inflow, and generally is accounted for by personal or charitable payments to friends or relatives abroad or by incidental small payments for services. Owing to the universal acceptability of the dollar (and for other reasons discussed later), many such payments are made at the present time on a dollar basis, i.e., the U.S. bank credits the dollar account of its foreign correspondent requesting it to effect the payment in domestic currency. While the foreign payments of individuals have traditionally been made largely through banking channels (except a fairly small volume routed through travel agencies having direct relations with similar agencies or banks abroad), the official rates of exchange in many countries (which many

[2] A detailed discussion of these methods would go far beyond the scope of this paper, but reference may be made to the following publications which contain up-to-date descriptions: Guaranty Trust Company of New York, *A Review of Export and Import Procedure* (revised, July 1950); William S. Shaterian, *Export-Import Banking* (New York, 1947); Morris S. Rosenthal, *Techniques of International Trade* (New York, 1950).

consider unrealistic but which banking channels nevertheless must respect) have driven some of these payments into the hands of less ethical exchange dealers. More detailed information on this subject is given below in connection with the discussion of nontraditional practices.

Payments received by U.S. residents *from abroad,* if denominated in a foreign currency, and if freely convertible into dollars, are usually sold by them to their banks or, in rare cases, are left deposited in a foreign bank. Because of restrictions on foreign currencies abroad, the recipients usually convert the proceeds into dollars at the earliest opportunity. For the same reason, U.S. banks, when purchasing the currency from a customer, usually do not pay the dollar equivalent to him until they have ascertained that the exchange purchased is freely convertible into U.S. dollars, or can otherwise be freely used.

Financial payments of corporations are generally made through regular banking channels or through mere bookkeeping entries between head offices and foreign subsidiaries or agents; they usually represent the transfer of profits or capital at the official rates of exchange. Owing to the uncertainties of foreign financial and political conditions, payments thus received from abroad are usually converted into dollars rather than kept as a foreign currency deposit in a foreign bank. However, the repatriation of foreign capital and profits is often not only a foreign exchange problem; tax considerations also influence the decisions of investors. This is particularly true of investments in countries with a stable and free currency because the advantage for tax purposes of transferring or not transferring a profit from a foreign country to the United States at a given moment might well outweigh any adverse developments which could be expected to affect the foreign currency involved.

Conversions of blocked balances by corporations or individuals through nontraditional methods have been growing in importance; they will be discussed further below in connection with the nontraditional payments practices.

Travelers letters of credit and travelers checks of Americans going abroad are generally issued in dollars because of the universal acceptability of that currency throughout the world. When these checks or credits are cashed abroad, the foreign bank pays the local currency equivalent (at its buying rate for drafts on New York) to the beneficiary and sends the travelers check or the draft drawn under the credit to the issuing bank in the United States. When these instruments are received back in the United States, the dollar amount is credited to the foreign bank's account in reimbursement.

Speculation in foreign exchange is much less widespread in the United States than in the Far and Near East and some European countries.

Although the migration to New York, during the last 15 years, of a number of experienced European and Far Eastern exchange specialists and investors has tended to increase speculative activity, it is not believed to be large in comparison with the other factors in the exchange markets. This is due partly to the lack of foreign exchange experience of many Americans and to the fact that restrictions abroad have tended to reduce the opportunities for speculation. U.S. banks are generally aware of the fact that most foreign Governments consider speculation in their currencies as undesirable, and they have, therefore, not encouraged speculative activities by their customers. For competitive reasons, however, it might be difficult for a bank to refuse such business to well-established customers maintaining large accounts, and it is often not easy for a bank to distinguish between speculation and bona fide commercial transactions at the time it is approached by a customer.

A few of the more important speculative movements along traditional lines in recent years include (a) the forward sales of sterling when devaluation became a possibility in 1949; (b) the forward purchases of sterling and the purchases of sterling securities coincident with the rumors concerning an upward revaluation in late 1950 and in the spring of 1951; (c) the various waves of speculative forward purchases of Australian pounds and purchases of Australian securities because of the rumored upward revaluation of the pound throughout 1950; and (d) the considerable purchases of Canadian funds and securities throughout the summer and early fall of 1950 when an upward revaluation was expected.

The speculative demand for forward contracts, which except in the case of Canada was accompanied by considerable anticipatory buying by commercial interests, had a considerable influence on the U.S. banks' foreign balances. Not being able to cover their inflated sales of forward contracts through the purchase in the New York market of similar contracts (and, as will be explained later in detail, not being permitted to cover them in the official forward market of the foreign country involved), U.S. banks were forced to buy spot exchange at the time the futures contracts were sold. Their foreign balances, therefore, showed very sudden and large increases over normal requirements. This was a profitable business for them owing to the interest earned on their deposits abroad and the premium over spot at which futures were quoted here.

While U.S. banks may have had a moderating influence on exchange speculation in recent years, there have been no governmental restrictions in the United States which might have prevented it. What little governmental restraint existed was due to action by foreign Govern-

ments, or the fear that such action might be taken. A particularly good example in this connection was furnished in 1950 by the Australian authorities who discouraged speculation in their currency by permitting reconversion into dollars of allegedly speculative Australian pound balances only after a period of delay during which speculators were questioned on the nature of the transactions involved. Some of these spot pound balances had been accumulated as cover for futures contracts sold by the banks.

The foreign exchange market

The principal foreign exchange market of the United States is in New York City. Most inland banks conduct exchange operations through New York correspondents, with the occasional exception of a few banks in such cities as Boston, Chicago, Philadelphia, and San Francisco, where some trading is done. In New York, about a dozen banks with active Foreign Departments and some agencies of foreign banks comprise the market which is entirely informal in terms of organization. Banks do not deal directly with each other but use the services of a number of brokers. All trading is done by telephone since there is no market place, no trading hours or days are fixed, and daily high or low figures are not officially quoted.

Since most payments to and from the United States are made on a dollar basis, only small supplies of exchange flow into the market and the demand is not particularly large. Trading in the market, therefore, is only a fraction of what it used to be before World War II. While the demand is generally not very large, the supply of individual currencies is often insufficient to meet the requirements and banks have to purchase their net requirements from their foreign correspondents. The banks, therefore, have standing arrangements with their foreign branches and correspondents to purchase exchange from them whenever needed. In the case of many countries, the rates of exchange charged by the foreign banks for these transactions are those fixed for the dollar by the foreign Governments, plus a small margin of profit for the foreign bank. Reimbursement is made in U.S. dollars credited to the foreign bank's account. Certain sterling area currencies (notably Australian and New Zealand pounds, Indian and Burmese rupees, and Malayan dollars) are purchased by U.S. banks usually against American account sterling. These transactions, incidentally, represented up to recently the only important type of exchange arbitrage conducted in the market since the opportunities for arbitrage have been reduced very much by exchange restrictions abroad. The abolition of exchange control in Canada and a relaxation of British exchange

restrictions in mid-December 1951 have re-established opportunities for arbitrage in American account sterling/Canadian dollars/U.S. dollars between the markets of the three countries. Partly owing to both the initial lack of arrangements for such trading, and a lack of recent experience, the effect of these steps has been only moderate so far. However, arbitrage can be expected to regain some of its former importance as a market factor once greater experience has been gained by banks and other dealers. The relaxation of British and French regulations in January 1952 should eventually contribute to an increased volume of international exchange trading, although the effect on the New York market has so far been very small.

The most important foreign currency in the New York market is the pound sterling, largely because imports of Far Eastern sterling area, Australian, and New Zealand commodities are traditionally billed in that currency, and because there is some natural inflow of funds into the market in connection with the sterling income of oil companies and grain dealers. The bulk-buying of commodities by the British Government and the inconvertibility of sterling have almost obliterated the system of sterling bills which, before the war, created a very large supply of sterling in the U.S. exchange market. At that time, British purchases of commodities in the United States (in particular, of cotton) were conducted through private channels. Payment was made traditionally in sterling by means of bills which were often discounted in London. Since the war, however, the United Kingdom has made bulk purchases of commodities against payment in dollars out of governmental accounts. Although this practice has been somewhat modified recently, activity in sterling exchange, although larger than that in any other currency, remains far below the prewar volume.

The Canadian dollar is the next most important currency in the market and promises to become considerably more active as the result of the abolition of Canadian exchange restrictions on December 14, 1951. The very large flow of U.S. capital to Canada has been an important demand factor in recent years.

There is also relatively sizable activity in the Swiss franc. Other currencies are traded only in relatively small amounts or not at all.

Although in the United States there are no officially fixed rates for any foreign currencies, rates quoted in the New York foreign exchange market are limited in their movements, in most cases, to a range which roughly reflects the official buying and selling rates for the dollar set by foreign Governments. For instance, spot sterling rates in the U.S. market are practically pegged between $2.78 and $2.82 as the result of the official British buying and selling rates for the dollar. If a U.S. bank can always sell all of its sterling in London at least at

the fixed rate of $2.78, it would, of course, not need to sell it for less in the New York market. Conversely, it would not pay more than $2.82 for it.

There are only three important rates in the traditional New York foreign exchange market which can be considered to reflect freely supply and demand and the market's opinion as to the balance of payments outlook. These are:

(a) American account sterling forward contracts, rates for which are entirely subject to supply and demand and are in no way officially supported either here or abroad;
(b) The Canadian dollar;
(c) The Swiss franc, which is subject to free fluctuations within the fairly broad support limits of the Swiss authorities.

Owing to the general lack of interest in foreign currencies, the New York *forward* market is predominantly that of one currency, the pound sterling. During periods of normal activity, sterling forward contracts are acquired by commercial customers from their banks largely in connection with their purchases of commodities from the United Kingdom, Australia, New Zealand, and Far Eastern sterling area countries. The banks, which generally do not want to assume an exchange position for their own accounts, will cover their sales to customers by purchasing a corresponding maturity in the market here or abroad. In the case of bona fide commercial transactions, i.e., those where a firm contract for the shipment of merchandise exists, banks were able until recently to cover their sales in the official forward market for the dollar in the United Kingdom at the official rates fixed by the British authorities. These official rates, however, have recently been abolished and the dollar forward rates in London are permitted to fluctuate freely in accordance with supply and demand. Most of the supply in the U.S. market for sterling futures is derived from hedging operations by corporations and individuals in anticipation of sterling income.

Aside from sterling, futures transactions in the New York market, during times of normal activity, are almost exclusively restricted to a good volume of transactions in Canadian dollars and some trading in Swiss francs. At times, however, abnormal speculative demand will result in unusual activity in other currencies, as has been indicated above.

A small but not unimportant part of foreign exchange trading in New York takes place in the market for *foreign bank notes*. This market is composed primarily of a small number of bank-note dealers and, to a lesser degree, the commercial banks which usually keep a small supply for the convenience of their customers. In transactions in Canadian bank notes, the New York agencies of Canadian banks

play an active part. The New York market is usually a net buyer of bank notes abroad and purchases its net requirements largely in Zürich. In almost all currencies, bank notes can be bought in New York at (sometimes considerable) discounts, the size of which depends largely on balance of payments considerations and on the individual countries' restrictions on the importation of notes. The New York bank note market is maintained largely in order to satisfy tourist demand and in connection with mail payments to foreign countries. The latter activity is discussed below in detail in connection with nontraditional payments practices.

Relations between U.S. banks and their foreign correspondents

In order to be able to render these foreign services to their customers, U.S. banks maintain branches in some of the principal foreign financial centers, or establish correspondent relationships with the principal banks abroad.

The balances maintained by U.S. banks abroad (i.e., in foreign currencies) have been kept to a minimum in recent years because of unsettled international political conditions and the risks of devaluation and restrictions on convertibility. The latter factor is especially important. Under normal conditions, the banks could protect themselves against devaluation by selling in the forward market an amount equivalent to their "spot" balance. Under present conditions this is not possible in most cases, because, as indicated above, there are no important forward markets in the United States (except for sterling and to a lesser degree Canadian dollars), while the official forward markets for the dollar in foreign countries generally do not cover the purely financial risks of U.S. banks which maintain operating balances. As a means of creating short-term funds in the money market, the French Government has permitted U.S. and Swiss banks to cover their free franc balances and short-term investments by the purchase of dollars in the forward market, but similar facilities are lacking in most other countries. For these reasons, the U.S. banks keep their foreign balances to a minimum and convert foreign currencies obtained by them (or their customers) into dollars without delay. Similarly, transactions which would result in the acquisition of blocked balances are carefully avoided.

The dollar accounts maintained by foreign banks in the United States thus have become the principal channel through which settlement between the domestic and foreign banks is made. Payments made by the foreign bank for account of the U.S. bank are credited to that account, and payments made by the U.S. bank for its foreign corre-

spondent are debited to it. For instance, U.S. banks frequently find it necessary to cover their sales of foreign exchange on a "dollar basis," i.e., not being able to buy the exchange in the domestic market and not having themselves sufficient balances abroad to satisfy the customer, they credit dollars to their foreign correspondents with the request to pay out the equivalent in foreign exchange.

Conversely, as a result of the shortage of dollar reserves in many countries and the tendency of exchange control authorities to concentrate exchange reserves in the accounts of the central bank, the accounts maintained in the United States by many foreign banks have been small. In many cases, they represent only minimum balances required for operations.

Position of the central bank

The foreign business of the Federal Reserve System is handled by the Federal Reserve Bank of New York under the supervision of the Board of Governors of the System. Owing to the absence of exchange control and of official rates of exchange, the Federal Reserve System in the United States, unlike the central banks of most other countries, is not a source of foreign exchange for its member banks, nor does it purchase foreign exchange from them except for its own purposes. In other words, the central bank in the United States does not "make a market"; it does not fix rates; and the banks do not receive any exchange assistance whatsoever from it. It is merely another customer in the market, which purchases or sells currencies for account of its customers (mainly the U.S. Treasury and foreign central banks). In a few cases, it assists in stabilizing exchange rates by standing ready to buy or sell (or both) foreign currencies at fixed rates. In each case, however, it does not act for its own account or for the U.S. Treasury, but as the agent of a foreign central bank which is endeavoring to assure that the New York rate for its currency does not move beyond certain limits between the closing hour of its own market and that of the New York market.

Nontraditional Payments Practices

The remainder of this paper will show, in a general way, how the existence of foreign exchange restrictions in other countries (or rather the desire to circumvent such restrictions) has not only modified the traditional practices in the United States described above, but has also been responsible for the creation of a number of new, nontraditional, payments practices. These new practices have been accompanied by

the development of a market for foreign currencies which is quite separate from that maintained by the commercial banks in connection with the traditional practices.

Activity along these nontraditional lines accounts for only a small part of the total U.S. foreign payments, but a description should be of interest since the very existence of nontraditional practices is due to the fact that the U.S. dollar is freely convertible and that Americans are free to engage in any financial transactions they wish (including the violation of the regulations of other countries, although contracts involving such violations cannot be enforced in the courts of countries which are members of the International Monetary Fund).[3]

The development of nontraditional practices has been primarily along the following lines:

(a) The many types of exchange deals incidental to *transshipment of merchandise;*
(b) Regular *black market financial transactions*—often referred to as "internal" payments—through transfers outside the regular banking channels, including payments in bank notes;
(c) International *security arbitrage;*
(d) *Trading in blocked balances.*

Transshipments of merchandise

Transshipment transactions usually involve the transshipment to the United States of merchandise purchased with a soft currency. An example is that of wool purchased in a sterling area country with sterling out of an account of country "X," ostensibly for shipment to "X." The wool never reaches "X" because it is transshipped either directly (or through a free port in "X") to the United States for sale against U.S. dollars. This type of transaction has the following advantages for the purchasers and the middlemen:

The U.S. importer obtains merchandise more cheaply than his competitors, since his reimbursement in U.S. dollars to the middleman in country "X" for the sterling spent is at a rate which represents a discount from the official U.S. dollar/sterling relation. The middleman in "X" succeeds in converting a soft currency into a hard currency which, in turn, can be converted into domestic currency through the black market at an advantageous rate, or can be used to purchase otherwise unavailable merchandise in the United States. The merchandise might be resold at a handsome profit in "X." The broker who has brought together the U.S. importer and the middleman in "X" receives a liberal commission which in the case of transferable and

[3] See Article VIII, Sec. 2(b) of the Fund's Articles of Agreement.

bilateral sterling amounted to as much as 5 cents per pound sterling in the early days of trading. It should be noted that the sterling involved in these transactions is not, and could not, be credited to an account of the American importer.

It would be futile to attempt, within the scope of this paper, a description of anything beyond the foregoing fairly simple, but typical, example of a transshipment deal. Almost every transaction differs in detail, and at times as many as four or five different countries are involved. While differing in detail all these transactions have two factors in common: their motivation arises principally from foreign regulations restricting the convertibility of certain currencies into hard currency, and their purpose to the foreigners is to acquire hard currency for conversion into soft currencies at favorable rates or for the purchase of hard currency merchandise.

Among the currencies which have been involved, the most prominent have been "bilateral" and "transferable" account sterling; others include German "offset" marks and German "offset" dollars, the various types of Belgian francs, Canadian "special arrangement" dollars, and certain types of French francs and Dutch guilders.

"Transferable" and "bilateral" sterling have also been used for payment to American exporters in cases where the export could otherwise not have been effected owing to the lack of dollar exchange in the importing country. This use of "cheap" sterling is believed to have been less important than that connected with imports to the United States.

Black market financial transactions

Black market payments *received by Americans* through transfers outside the regular banking channels usually constitute the liquidation of capital abroad, i.e., the conversion of foreign balances which could not otherwise be transferred. In payments *from* the United States, they reflect the reluctance of Americans to make foreign transfers at the official rates which regular banking channels must respect. Technically, these black market transfers are generally effected in the following manner: An American turns over dollars to an exchange dealer in, say, New York, who in turn credits these dollars to his contact abroad. The latter pays the domestic currency equivalent to the beneficiary either in cash, by check, or through local banking channels. Because they are less exposed to detection by the authorities, "cash" payments in the country of destination usually command a premium over check or banking payments. The important aspect of these transactions is that payment is made at a rate below the official rate and attractive to the American. The foreign contact can pay this rate (which is initially

unfavorable to him) because he can dispose of the dollars so obtained to persons willing to pay a premium for legally unavailable dollars. Since the end of World War II, the black market has been extensively used for payments to such countries as France, Italy, Greece, Austria, and Germany, and payments to almost every country in the world can be effected through it.

A slight variation of the above type of black market payment has been the growing practice in recent years for Americans to purchase *foreign bank notes* and mail them directly to friends abroad. Since these bank notes (which usually have been smuggled out of a foreign country) cannot be legally re-imported into that country, the American payor is able to obtain them at a discount. The payor rarely worries about (and often is not aware of) the fact that his shipment of bank notes is contrary to the regulations of the payee's country and thus violates U.S. postal regulations which prohibit the mailing of bank notes to a country which prohibits their importation in this manner. The demand for bank notes in connection with payments of this type has become an important factor in the New York bank note market described above. The quotation of notes at a substantial discount from par is largely a development resulting from exchange restrictions abroad. Prior to exchange control, the bank note rates (except for seasonal or exceptional conditions) varied from parity by only roughly the amount of shipping charges and dealers' profit margins.

International security arbitrage

International security arbitrage is not an invention of recent years, but it has developed in new ways because of the various restrictions abroad concerning the exportation or importation of securities. U.S. holders of British securities, for instance, cannot sell them in England and transfer the proceeds at the official rate. They may, however, sell them to other Americans against U.S. dollars. Because he is unable to convert the foreign currency proceeds at the official rate, the American buyer will expect to obtain them in the United States at a discount. There exists, in fact, an active market in British securities between Americans (and between Americans and residents of other hard currency countries). The rate in these dealings, usually referred to as "switch" or "securities" sterling, is established as follows: a security which could be sold in London against inconvertible sterling at, say, £100 is bought by one American from another American for $230. The resulting rate for "switch" sterling would be $2.30 per pound.

There are similar markets for the securities of other countries, many of which have restrictions on the exportation or importation of securi-

ties. A resident of country "X," for instance, might purchase securities of his country in New York against dollars at the prevailing discount. He repatriates them to his country and sells them there against domestic currency at full price, thus netting a considerable profit. He might have utilized the dollars and/or repatriated the securities with the permission of his Government. On the other hand, he might have had to purchase the dollars in the black market (which would reduce his net profit), and/or the securities might have been repatriated by smuggling.

Trading in blocked balances

Dealings in blocked balances were practiced even before World War II, particularly in the various types of German mark. In the postwar years, this kind of activity has not been very important, except in connection with transshipments which have been described above. In March 1951, a market developed in New York in the new German mark when German regulations permitted the transfer of such balances between foreigners; restrictions on the utilization of balances so purchased and other considerations have kept the rates for these dealings considerably below par. In recent years there has also been a market for certain French and Italian blocked balances accumulated largely from the sale of capital assets. These dealings were effected at rates which were usually close to par, because utilization of the balances was permitted on a broader basis than in the case of the mark.

The "nontraditional" exchange market

A special exchange market has developed to accommodate the above described nontraditional transactions. For security arbitrage the market is, of course, largely made by U.S. stockbrokers and securities dealers. A number of these houses are also engaged in exchange dealings for certain types of transshipment arrangements, because they believe that, while these transactions may be illegal under foreign laws, they are legal under U.S. laws, and that they, the brokers, are merely acting as intermediaries who receive a commission for bringing the two parties together. The commercial banks have largely shied away from any of these transactions (except those which are legal under both foreign and domestic laws, such as blocked balances in certain countries), because they are fearful of having their names mentioned in connection with a transaction violating the laws of any country. The black market payments, and some of the varieties of transshipments which involve the more flagrant violations of foreign regulations, are handled by a number of smaller exchange houses and securities dealers.

Recent Developments in the U. S. Balance of Payments

H. K. Zassenhaus and F. C. Dirks *

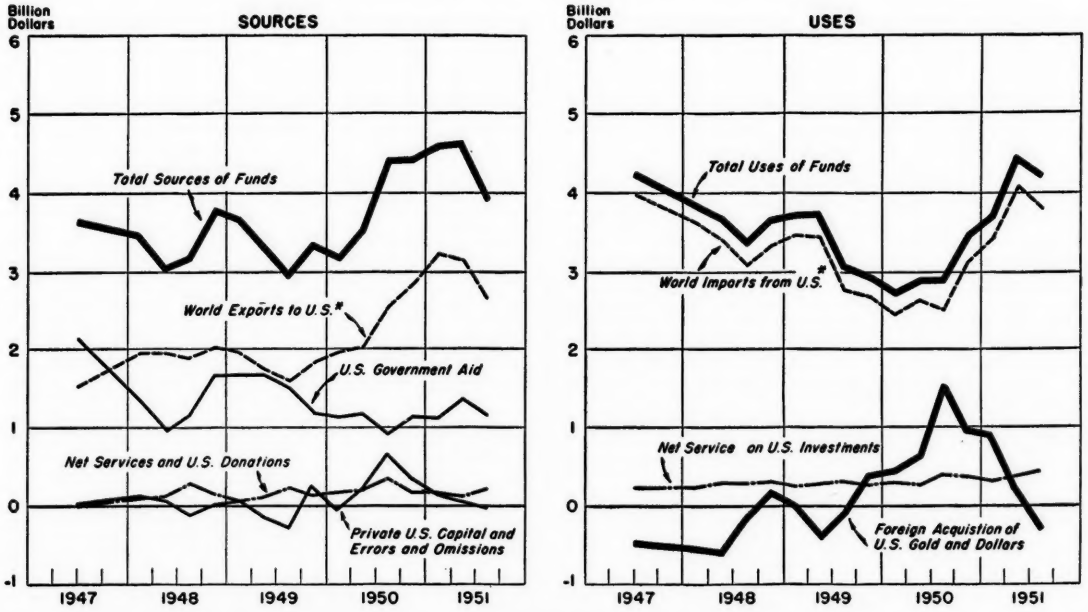
VARIATIONS in the gold and dollar assets of foreign countries have, in recent years, been closely related to their economic transactions with the United States. The supply of dollars currently available to these countries has been directly affected by fluctuations in the U.S. demand for their exports, and the imports of these countries from the United States have tended, in turn, to show similar fluctuations, though usually with a lag of one or two quarters. Substantial disparities which appear when this relationship is tested by reference to particular areas are partly explainable by differences in multilateral dollar settlements with third areas.

A study of the more recent changes is facilitated by tracing developments through three successive phases. During the first phase, from the middle of 1949 through July 1950, U.S. imports rose rapidly under the influence of domestic recovery from the 1948-49 recession, whereas exports continued the decline which had begun in 1947. These movements led to a substantial acquisition of U.S. gold and dollar assets by the rest of the world. In the second phase, beginning with the outbreak of war in Korea and ending with the first quarter of 1951, U.S. demand for imports continued, but there were distorting side-effects which reflected speculative reactions. The enlarged supply of dollar funds abroad caused a rise in the demand for U.S. exports, which began to increase sharply in September 1950, and the outflow of gold and dollars from the United States started to diminish. In the third phase, covering the second and third quarters of 1951, U.S. demand for imports dropped sharply—reflecting, to a great extent, a reaction against the previous build-up of prices. Exports also decreased, although not so sharply as imports. By the third quarter, the rest of

* Mr. Dirks, Acting Chief of the North American Division, is a graduate of Middlebury College, Tufts College, and Columbia University. He was formerly economist at the Board of Governors of the Federal Reserve System, Chief of the Financial Intelligence Branch and Deputy Chief of the Governmental Structures Branch in the Office of Military Government for Germany, and economist in the Office of the Secretary of Defense.

Mr. Zassenhaus, economist in the North American Division, is a graduate of the University of Bonn and the University of Bern. He was formerly Professor of Economics at Colgate University and research associate at the Twentieth Century Fund.

CHART 1. World Sources and Uses of Dollar Funds, Quarterly, 1947–51



*"World" indicates the aggregate of all countries outside the United States.

the world was again drawing on its gold and dollar assets to meet obligations in the United States.

Analysis of the factors which caused these developments is complicated by the differences in timing between the two sides of the trade balance, by unusually large capital movements, and by an increase in the extent of governmental controls.

Supply and Use of Dollar Funds

From the end of 1949 through mid-1951, the supply of dollar funds currently becoming available to the rest of the world rose steadily, from $3 billion a quarter to over $4½ billion.[1] Unlike the 1947-49 period, when the supply of dollar funds fluctuated mainly in response to variations in U.S. Government aid, the main source of the increased dollar supply after 1949 was larger receipts from merchandise shipments to the United States, i.e., from U.S. imports (Chart 1 and Table 1). An exception to this generalization was the third quarter of 1950, when U.S. private capital movements to Canada added about $500 million to the world supply of U.S. dollars.

The rise in the value of U.S. imports since 1949 is a continuation—accentuated by the special stimulus of post-Korean conditions—of an upward trend that began immediately after World War II but was temporarily interrupted in 1949. From a wartime rate of less than $1 billion a quarter, U.S. imports rose in 1948 to a rate of nearly $2 billion, as supply conditions improved abroad (primarily in Europe) and U.S. demand increased. After a drop to $1.5 billion in 1949, the rise was resumed in the spring of 1950 and the value of imports, swollen by sharp price increases, rose to a new peak of $3.2 billion in the first quarter of 1951. A subsequent decline in both volume and prices brought the value of third quarter imports down to $2.6 billion.

The increase in the supply of dollars to foreign countries since 1949 has been followed, with a lag of about half a year, by a rise in the use of dollars, mainly to purchase U.S. exports. This lag was a major factor accounting for the exceptionally large volume of U.S. gold and dollar assets acquired by the rest of the world in 1950 and early 1951.

Lag between U.S. imports and exports

The dependence of world[2] imports from the United States (U.S. exports) on prior earnings from world exports to the United States

[1] The supply of dollar funds is here taken to include proceeds from the sale of exports to the United States, plus net dollar receipts from U.S. Government grants and loans, from services (exclusive of investment income), and from private donations and private capital movements.

[2] Throughout the text, "world" is used to describe the aggregate of all countries outside the United States.

TABLE 1. U.S. INTERNATIONAL TRANSACTIONS, QUARTERLY, 1950-51
(In millions of U.S. dollars)

	1950				1951		
	I	II	III	IV	I	II	III
Merchandise exports	2,439	2,615	2,498	3,106	3,414	4,091	3,821
Merchandise imports	1,960	2,007	2,533	2,815	3,217	3,133	2,631
Trade balance	479	608	— 35	291	197	958	1,190
Services, including net income from foreign investment, and private donations	125	85	48	215	151	291	212
Private capital (net)	−43	−181	−835	−258	−294	−287	−2
U.S. Government aid (grants and loans, net)	−1,105	−1,161	−902	−1,116	−1,094	−1,362	−1,129
Foreign acquisition of U.S. gold and dollar assets	455	667	1,549	958	894	163	−292
Errors and omissions	89	−18	175	−90	146	237	21

Source: Based on data from U.S. Department of Commerce, *Survey of Current Business*, June 1951 and December 1951. In the *Survey* for March 1952, revised figures were published for the third quarter of 1952. The major revisions were increases of $49 million in imports of unrecorded merchandise, of $84 million in government services, and of $130 million in errors and omissions.

(U.S. imports) is seen clearly if the U.S. export data are adjusted to exclude amounts financed directly or indirectly by U.S. Government aid. Such an adjustment is desirable because the greater part of Government aid is "tied" (that is, payment is made in connection with shipments), and a corresponding portion of U.S. exports can move without reference to the level of U.S. imports. A comparison between world exports to the United States and world imports from the United States decreased by U.S. Government aid is presented in Chart 2 for the 1948-51 period. For convenience in this discussion, these residual imports will be called "unaided imports." [3]

From mid-1948 to mid-1951, world commodity exports to the United States generally exceeded unaided world imports from the United States.[4] In the second and third quarters of 1951, however, the export balance declined abruptly.

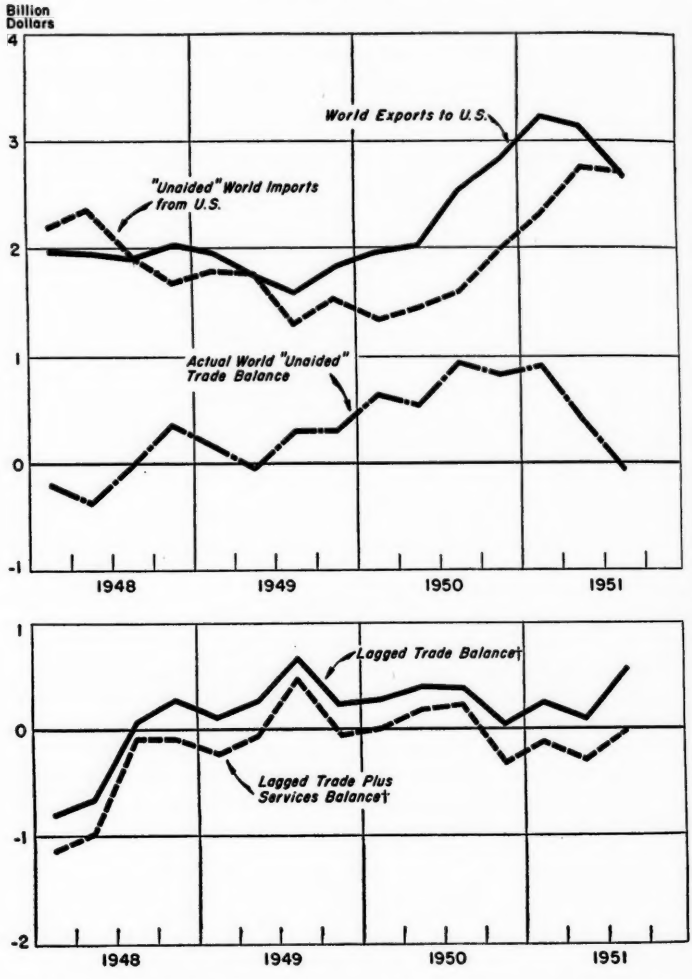
Much of this rise and decline in the unaided trade balance of foreign countries vis-à-vis the United States is explainable in terms of a lag of U.S. export changes behind U.S. import changes. Variations in the quarterly rate of U.S. imports from the rest of the world (in the third and fourth quarters of 1948, the third quarter of 1949, the middle of 1950, and the first quarter of 1951) were followed by similar movements in unaided world imports from the United States. To be sure, the lag was not always of the same length or clearly apparent in the trade of all major areas. Nevertheless, the hypothesis that variations in the dollar supply affect the use of dollars, with a lag, has been confirmed five times in the past three years, and should therefore also be taken into account in estimating the significance of more recent movements.

When unaided world imports are compared with world exports two quarters earlier, the lagged balance that results appears to have shown no definite tendency either upward or downward from 1949 through the summer of 1951. (See the lower section of Chart 2.) The principal fluctuations were in the third quarter of 1949, when unaided imports from the United States were abnormally low owing partly to emergency restrictions imposed by the Sterling Area, and in the fourth quarter of 1950, when such imports appear to have been unhampered by the temporary check in exports two quarters earlier. The irregularity of

[3] The subtraction of all U.S. Government aid from commodity trade is not quite appropriate since part of the aid goes to pay for services. This part is ignored here because the relevant data are not readily available. The alternative method of including service items with commodity exports and imports on the chart seemed undesirable because the seasonal movement in service items would have obscured the parallelism between commodity exports and imports. The roughness of the adjustment does not affect the validity of the conclusions reached here.

[4] This world export balance was in fact the major factor in the mounting outflow of U.S. gold and dollar assets.

CHART 2. "World" Exports and Imports Vis-à-Vis the United States, Quarterly, 1948–51 *



* "World" indicates the aggregate of all countries outside the United States. "Unaided" world imports are world imports from the United States decreased by U.S. Government aid.

† Balance of "unaided" imports compared with exports two quarters earlier.

the lagged trade balance in the second and third quarters of 1951 reflects an apparent shortening of the lag response to only one quarter. On the whole, however, changes in the value of unaided world imports from the United States have, since 1948, followed remarkably closely changes in exports to the United States one or two quarters earlier.

Until 1951 the lagged trade balance, averaging around $300 million a quarter in favor of the rest of the world, was sufficient to cover net payments to the United States for services, including the service of U.S. foreign investments. In 1951, however, the tentative indication is that the lagged trade balance dropped by about $100 million a quarter, and that the services balance also was more unfavorable, so that there was a combined deficit of around $200 million a quarter.

This analysis of the lag behavior brings out the temporary nature of the balance of payments residual during periods of rising and falling trade, and makes it easier to estimate the impact of fluctuations in U.S. imports upon the world demand for U.S. goods. It suggests the conclusion, among others, that the 1950 experience did not represent a new basic trend toward world accumulation of gold and dollars; neither, on the other hand, did 1951 developments portend a catastrophic reversal of the 1948-50 trend.

In this analysis and the conclusions which follow from it, certain implicit assumptions cannot be avoided. For example, it is assumed that the lag observed in the past will continue in the future. Insofar as the lag depends upon the time required for changes in the dollar supply to become evident and for the administrators of governmental controls to adjust their policies to these changes, such an assumption seems reasonable. The conclusion that, because of the lag, the large surplus in the U.S. trade balance will be temporary assumes also that the decline of imports shown in the 1951 recorded data will be followed by governmental action abroad which will, in a few months, bring an appropriate further reversal in the balance. (Action of this sort has already been announced by several European countries.) Apart from official measures, the prospect of such a reversal is enhanced by the likelihood that world exports to the United States will turn upward again in 1952.

U.S. Government aid

The fluctuations in U.S. Government aid from 1947 to 1951 (Chart 1) are explainable largely in terms of the three major aid programs. The sharp decline from 1947 to 1948 reflected the declining importance of additional loans under the immediate postwar programs; the rise during the second half of 1948 and the subsequent decline in 1949-50 reflected

the evolution of the European Recovery Plan; and the rise since the third quarter of 1950 reflects the growth of military aid, from about 4 per cent of the total aid program in early 1950 to over 35 per cent in the third quarter of 1951.[5]

Government aid not only increases the amount of U.S. exports, but also has important policy implications for the direction of world trade. If dollars made available through Government purchases of miscellaneous foreign goods and services and through disbursement of troop pay abroad are included, total funds subject to U.S. Government direction averaged, according to available information, about $1¼ billion a quarter in 1951. Stockpiling expenditures for imported goods may, before their sharp decline in the last quarter of 1951, have approximated a further $100 million to $200 million a quarter. In the aggregate, all these sums amounted to about 40 per cent of the total dollar supply (as defined above) currently accruing to other countries in early 1950. Later in 1950 the proportion dropped to around 25 per cent, but with U.S. aid increasing in 1951 the proportion again rose above 30 per cent. The significance of these figures lies in the fact that about three fourths of the aid is spent directly for U.S. exports, and thus immediately affects both the origin and the destination of a substantial portion of world trade.

Private capital movements

In recent years, U.S. private capital movements have been subject to relatively wide fluctuations since, in addition to small amounts of regular capital outflow, there have been occasional large transactions. The outflow in the third quarter of 1950 was especially abnormal, identifiable items totaling $609 million.[6] If these items are deducted from the total private capital outflow for that quarter (Table 2), the remainder—about $225 million—would not be out of line with the totals for adjacent quarters.[7] In the third quarter of 1951 the private

[5] The authorizations requested by the President for foreign aid in the fiscal years ending June 1952 and June 1953 would raise military aid to about 75 per cent of total aid, but the significance of these requests is qualified by the prospect of military aid including industrial supplies and equipment. The amount of actual military end items for fiscal 1952 was proposed by the President at roughly half of total aid.

[6] These included an increase of $280 million in U.S. bank deposits and security holdings in Canada, an increase of $50 million in short-term claims on the United Kingdom, a private U.S. bank loan to the French Government of $225 million, and a private refunding loan of $54 million to the Canadian Government, which was not actually disbursed for retirement of the old securities until the following quarter. The first two of these items appear to have been largely speculative.

[7] Other unusual transactions in the past two years include a short-term inflow of $121 million from Latin America in the first quarter of 1950, and a short-term outflow of $98 million to that area in the fourth quarter.

outflow declined sharply, most of the reduction occurring in the flow to Canada and Latin America.

"Errors and omissions" in the U.S. balance of payments with the rest of the world have often represented concealed capital movements. In the autumn of 1950, they appear to have been accounted for largely by increased commercial credit balances in the United States, resulting from a more or less normal lag in clearing payments for the unusual increase in September of merchandise trade imports and outgoing capital. The sum of the two increments was close to $1 billion, and even a short lag in clearing payments could readily account for the

TABLE 2. U.S. PRIVATE CAPITAL MOVEMENTS, QUARTERLY, 1950-51

(In millions of U.S. dollars)

	1950				1951		
	I	II	III	IV	I	II	III
Recorded movements							
Long term, net	−246	−164	−698	− 60	−300	−243	− 40
Outflow	*−558*	*−383*	*−875*	*−368*	*−379*	*−474*	*−156*
Inflow	*312*	*219*	*177*	*308*	*79*	*231*	*116*
Short term, net	203	− 17	−137	−198	6	− 44	38
Total	− 43	−181	−835	−258	−294	−287	− 2
Errors and omissions	89	− 18	175	− 90	146	237	21
Total (including errors and omissions)	46	−199	−660	−348	−148	− 50	19

Source: U.S. Department of Commerce, *Survey of Current Business*, June 1951 and December 1951. Revised figures for errors and omissions published in the *Survey* for March 1952 raise the net credit for the third quarter of 1951 to $167 million.

unusual rise in "errors and omissions" in the third quarter of 1950, and their subsequent fall in the fourth quarter.

The reason for the resurgence of errors and omissions in the first half of 1951 is not yet clear. It may be significant, however, that errors and omissions and the recorded net outflow of U.S. private capital fluctuated in such a way that their combined total declined steadily, until in the third quarter of 1951 there was a small net credit.

Private donations and services

The dollar supply to other countries from private U.S. donations was fairly steady in the early postwar period; it then declined gradually, however, from about $170 million a quarter in 1947 to around $100 million a quarter in 1951. Net foreign earnings of dollars on service account improved gradually from a negative figure (indicating

net U.S. earnings) of about $180 million a quarter in 1947 to a positive figure averaging $100 million a quarter in 1951, the third quarter of the year typically showing a seasonal peak reflecting tourist travel.[8]

Acquisition of U.S. gold and dollar assets

The persistent lag between movements in world exports to the United States and in world imports from the United States has in turn produced fluctuations in the rate at which other countries have acquired U.S. gold and dollar assets. While world receipts of dollars fluctuated irregularly from 1947 through 1949, world purchases of U.S. goods tended to decline, and thus there was a gradual slackening of the rate at which gold and other monetary assets were sold to the United States. By the end of 1949 trade balances had improved sufficiently for the residual to become positive—that is, other countries, in the aggregate, began to acquire U.S. gold and dollar assets.

During 1950 and the first half of 1951 other countries increased their holdings of U.S. gold and dollar assets by about $4.7 billion.[9] By the second quarter of 1951, however, the rate of addition was much lower; the third quarter brought nearly $300 million of gold and dollar assets back to the United States, and a further movement in this direction appears to have occurred in the fourth quarter.

While changes in the trade balance produce fluctuations in monetary reserves, the magnitude of the reserves itself is also a factor that affects the volume of foreign purchases in U.S. markets. The way in which this factor has operated may be illustrated by the changes in the ratio of unaided world imports from the United States to the world's current supply of U.S. gold and dollar assets (exclusive of funds received through U.S. Government aid). In 1948 this ratio exceeded 100 per

[8] Third quarter net earnings by other countries from U.S. tourist travel amounted to about $190 million in 1950; in 1951, however, the figure was reduced to about $150 million, mainly because of greater travel by Canadians in the United States. Net income from U.S. foreign investment, on the other hand, increased steadily to a quarterly average of $370 million in 1951. Miscellaneous Government expenditures, mainly from U.S. installations abroad, have risen from under $100 million a quarter in the first half of 1950 to $160 million a quarter in early 1951; by the third quarter the rate had reached $280 million and was still rising. These sources of dollar earnings have been partly offset by net U.S. earnings for transportation and miscellaneous private services of about $150 million a quarter.

[9] Nearly $2.7 billion of this was in the form of gold, and amounted to a 25 per cent addition to the gold reserves reported by these countries at the end of 1949. The remaining $2 billion was about evenly divided between short-term bank balances and U.S. securities (mostly Government issues); this amount also was about 25 per cent of the combined foreign holdings of short-term banking funds and U.S. securities (not counting foreign purchases before 1935) that were outstanding at the end of 1949.

cent, i.e., expenditures of U.S. dollars exceeded the supply of current dollars accruing to other countries. The difference was met by drawing upon gold and dollar reserves, and there was subsequently a steady decline of purchases in the United States by other countries, both in absolute terms and as a percentage of the current supply of dollars. The ratio reached a low of 50 per cent in the third quarter of 1950. The higher rates of 75 and 94 per cent in the first and second quarters of 1951 suggest that the pressure to minimize U.S. purchases in order to restore reserve positions had been by that time somewhat relieved.[10]

Another factor which may have influenced the use of foreign gold and dollar earnings is the rise in U.S. (and world) export prices, which has reduced the purchasing power of those earnings. From the first quarter of 1950 to the middle of 1951, U.S. unit export values rose about 20 per cent; this percentage, applied to gold and dollar holdings of the rest of the world, would represent a loss of over $3 billion in their purchasing power.

Since the impact of trade shifts on monetary reserves becomes known only with a lag, and since there is a further lag before the volume of trade responds to changes in administrative controls, the gold and dollar flow tends to move, periodically, beyond the levels desired by the various Governments. This movement creates a danger of alternating excesses of optimism and pessimism, with consequent overadjustments in Government controls which could make monetary reserves still more unstable.

Commodity Trade and Prices

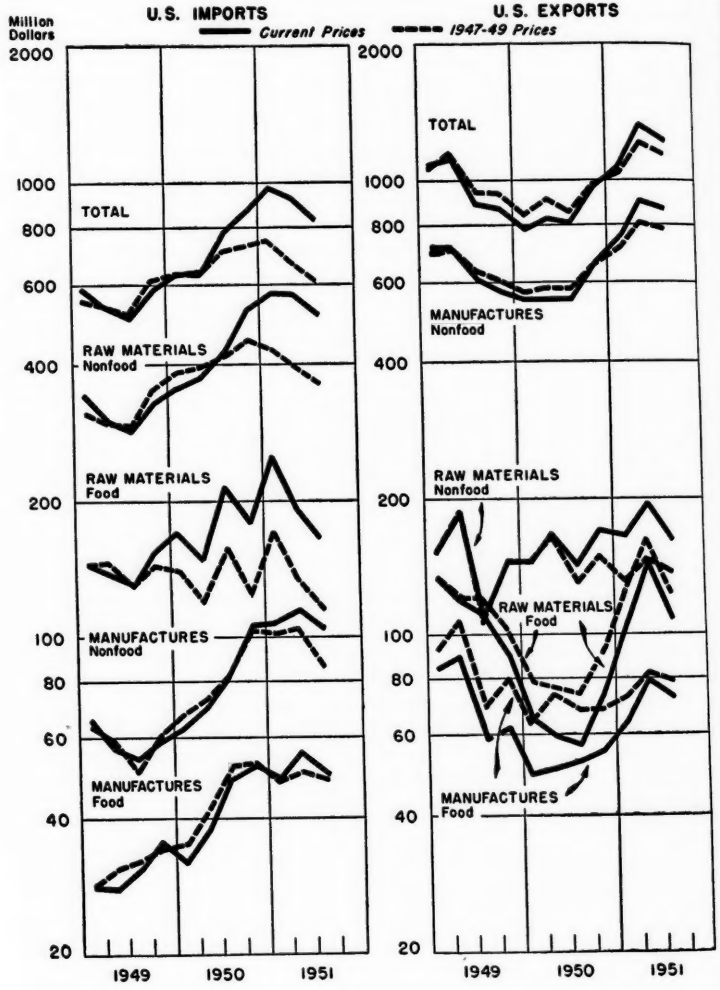
Raw materials and semimanufactured products comprise a major part of U.S. commodity imports, while manufactured products provide the bulk of commodity exports. Accordingly, the U.S. trade balance is dominated by fluctuations in the quantities traded and the prices of these groups. This is illustrated by Chart 3 where the dollar values of commodity imports and exports during 1949-51 are shown on a ratio scale. In order to indicate the extent to which rising values have reflected rising prices, the chart also shows quantity data, i.e., imports and exports valued at constant (1947-49) prices.[11]

[10] The fact that in the third quarter the ratio of unaided imports from the United States to the current supply of funds (less U.S. Government aid) again exceeded 100 per cent may be explainable by the unexpectedly sharp drop in dollar earnings as U.S. buyers resisted the high prices that had been built up. Moreover, in view of the prospect that this drop might be temporary, monetary reserves could appropriately be used to maintain the level of world purchases in the United States.

[11] The figures in Chart 3 are for recorded imports and exports, which include aid-financed exports. For purposes of the analysis, the published figures for merchandise imports and exports have been regrouped under the two headings,

CHART 3. Value of U.S. Imports and Exports by Major Commodity Groups, Monthly Averages by Quarters, 1949–51

(logarithmic vertical scale)



Although Chart 3 has been plotted from recorded total trade,[12] which includes aid-financed exports, the lag of exports behind imports is clearly discernible. But because of the continued decrease in U.S. foreign aid, the recovery of exports after the first half of 1950 was at first slower than that of imports after mid-1949. Subsequently, when aid began to rise again, the rise in exports equaled that of imports two quarters earlier. The increase in the value of total exports from August 1950 to June 1951 was about 70 per cent, which was practically the same proportion as that for the increase in the value of total imports from February 1950 through January 1951. But owing to the adverse movement in the terms of trade during this period, the increase in the quantity of exports (43 per cent) exceeded that in the quantity of imports (34 per cent).

Value and quantity of U.S. imports

On the import side, two facts are most striking: the difference after mid-1950 between the movements of import values and import quantities, and the difference between the behavior of the quantities of imports of manufactures and of nonfood raw materials.

Until the second quarter of 1951, the trend of import values was strongly upward in all commodity groups. At its peak in the first quarter of 1951, the value of total imports was 60 per cent above the value a year earlier and almost double that of the depressed third quarter of 1949. On the other hand, total import quantities rose no more than 20 per cent above the first quarter of 1950 and 50 per cent above mid-1949. Secondly, while the rate of increase of import values in 1950-51 was more than double that from mid-1949 to early 1950, the rate of increase of import quantities in 1950-51 was some 20 per cent less than that from mid-1949 to early 1950. Clearly, in contrast to the recovery after the 1949 recession, the subsequent (post-Korean) boom in import values was largely a matter of prices.

The decline by 17 per cent of import values between the first and third quarters of 1951 was accompanied by a fall of 25 per cent in

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raw materials and manufactures, with subdivisions into food and nonfood. This regrouping affects imports particularly. Semimanufactures, newsprint, and jute burlap have been grouped together with crude materials to form the subclass "nonfood raw materials." Sugar has been combined with crude foods to make up the subclass "food raw materials." Nonfood manufactures correspondingly exclude newsprint and jute burlap, while food manufactures exclude sugar.

On the export side finished and semifinished manufactures have been combined into the subclass "nonfood manufactures."

[12] Price and quantity indices are available only for recorded trade. The figures used for the chart are therefore smaller than the (adjusted) merchandise trade figures in the balance of payments statistics of the U.S. Department of Commerce.

import quantities. These movements brought import values by September back almost to July 1950 (i.e., to pre-Korean) levels, and import quantities were only a little greater than in September 1949 (i.e., at a level below that of full recovery from the mid-1949 dip). The collapse of the immediate post-Korean boom has meant, at least so far, a more serious recession of import quantities, which thus showed themselves to be far more sensitive to the recent decline in American demand than they had been to the post-Korean increase. These conclusions are especially applicable to nonfood raw materials. The comparison between this group and imports of manufactures, summarized in Table 3, is striking.

TABLE 3. PERCENTAGE CHANGES IN U.S. IMPORTS OF NONFOOD RAW MATERIALS AND OF MANUFACTURES, SELECTED PERIODS, 1949-51 [1]

Group	Jul 1949 to Jan 1950	Jan 1950 to Jul 1950	Jul 1949 to Jul 1950	Jul 1950 to Jan 1951	Jan 1951 to Jul 1951	Jul 1950 to Jul 1951	Jul 1951 to Sep 1951
			Percentage changes in values				
Nonfood raw materials..	+45	+ 9	+55	+45	− 5	+40	−18
Manufactures	+15	+35	+57	+25	+ 3	+32	−13
			Percentage changes in quantities				
Nonfood raw materials..	+55	0	+55	+20	−20	− 3	−15
Manufactures	+20	+30	+57	+25	− 8	+14	−14

[1] Based on data from U.S. Department of Commerce, Office of International Trade, *Total United States Export and Import Trade* (International Trade Statistics Series), and Bureau of the Census, *Foreign Trade Reports* (FT930).

Several observations are suggested by an examination of Table 3. *First,* the changes in imports of nonfood raw materials and of manufactures over the whole year preceding the outbreak of hostilities in Korea were approximately equal, both in value and in quantity. But the total effect of the domestic U.S. recovery took place in two steps: the revival of imports of raw materials was concentrated mainly in the first, and the revival of manufactured imports in the second, half year.

Second, the post-Korean impact on imports also proceeded in two steps, again affecting the two commodity groups in the same order. During the first phase, however, rising import demand (as represented by the import value figures) drove up raw materials prices sharply, while prices of manufactures hardly moved. In the second phase, the rebound from the high import demand occurred earlier and was sharper for raw materials than for manufactures; manufactured import prices were indeed still rising in September 1951, while raw materials prices had been falling since June.

Third, the output of manufactured goods can normally be increased more rapidly than the output of raw materials, and certain industrial countries were, for the first time since the end of the war, making an effective entry into world markets. For these reasons more manufactured imports were available, and if quantity figures are accepted as an indication of the supply conditions of U.S. imports, this meant that a relatively continuous increase in import quantities could be supported at relatively moderate price rises, while tight supply conditions produced quite the contrary result for raw materials.

Thus in both the rising and falling movements of total imports, manufactured imports reacted later and showed larger upward and smaller downward changes in quantity.

The difference between the reactions of nonfood raw materials and of manufactured imports appear to be the combined result of (1) the difference in timing between the impact of increased domestic demand on the two commodity groups, and (2) the difference in their supply conditions.

Fourth, the over-all import effect of the post-Korean developments, even in value terms, has so far been relatively small; this has been in the main a temporary, and chiefly a price, boom. The adjustment to domestic post-Korean developments is, as will be shown later, still incomplete.

Imports of food raw materials are in a class by themselves. Most of their price rise (dominated by that of coffee) occurred in 1949 and the first half of 1950. Significant quantity changes, apart from seasonal movements, were almost completely absent, though the effects of the "buying spree" in the third quarter of 1950 and the first quarter of 1951 are clearly visible. Otherwise, this import group shows practically no response to domestic income changes. The general trend of food raw materials imports is only slightly upward, and their import values are almost completely determined by their price increases.

U.S. imports and domestic activity

The developments in U.S. domestic economic activity that form the background for the rapid changes in the U.S. trade balance, which have just been discussed, may be broadly summarized as follows. Recovery from the recession in mid-1949 lifted U.S. gross national product from a low of about $255 billion to $280 billion by mid-1950. The events following the outbreak of war in Korea raised it by another 16 per cent, to $325 billion by mid-1951. In the 1949-50 rise, private domestic investment, rising by 60 per cent, played the dominant role; personal consumption expenditure reacted very much less sharply, rising only

8 per cent; and there was actually a decrease of almost 10 per cent in the Government sector. In the 1950-51 phase, the roles were reversed: the Government sector increased by more than 58 per cent, private investment by 30 per cent (with a sharp decline in the third quarter of 1951, however), and personal consumption by only 5 per cent, interrupted by two temporary peaks in the third quarter of 1950 and the first quarter of 1951. The accompanying rise in industrial production was also sharper in the second phase (21 per cent) than in the first (11 per cent), while the price rise in the first phase (12 per cent) was almost twice that in the second.

Imports of raw materials may, from past experience, be expected to move in close relationship to the volume of industrial production, while imports of consumer or near-consumer goods are affected by domestic consumer expenditures. In an economy like that of the United States, which—to a larger extent than other countries—produces the same products that it imports (or close substitutes for them), differences between domestic and foreign prices would be expected to influence imports significantly. In fact, however, as the following discussion will show, only a comparatively narrow range of imports (mainly manufactures and semimanufactures) seems to possess a noticeable price sensitivity in the short run.

For imports of raw materials, the effects of the basic relationship to industrial production are overshadowed by those of other forces. The influence of these forces may be indicated, to some extent, by movements of domestic inventories, since excessive imports (i.e., excessive in relation to domestic import-absorbing activity) should add to inventories and excessive inventories should discourage future imports. Inventory movements thus result in part from previous import movements, and in part cause future import movements.

The relatively large inventories of purchased materials and goods in process which manufacturers held in the first quarter of 1949, after industrial production had already begun to decline, are probably at least a partial explanation of the subsequent drop in imports of raw materials, which proceeded at a rate considerably greater than the rate of decline for industrial output. Since the decrease in inventories did not cease until the third quarter of 1950, when industrial production had already begun to rise sharply, imports were stimulated to rise more than industrial output. The very rapid rise of imports in the second half of 1950, however, was accompanied in the late months of the year by a quite sizable increase in raw materials stocks. This increase appears to have been a factor that contributed to the decline in raw materials imports in 1951. The rise and subsequent reduction in imports of wool, rubber, and the major nonferrous metals accounted, to a

considerable extent, for the movements of raw materials imports as a whole; in the markets for these commodities, either U.S. Government purchases were of major importance or U.S. domestic price ceilings and a general redirection of U.S. stockpiling policy in 1951 limited U.S. imports.

Raw materials imports might be expected to rise more sharply than industrial output in an economy with full employment which is subjected to the additional strain of armament expansion. In 1950 and early 1951, this was particularly true for semimanufactured products (which in our classification are included in raw materials), such as metal manufactures and industrial chemicals. Later, however, as domestic output of these materials rose to a level more in accord with domestic demand, imports began to fall off. This substitutive effect is an additional explanation of the reversal of the import movement in 1951.

Another cause of the sharp changes in imports—first upward, and then, after early 1951, downward—was, undoubtedly, speculative importing.

Consumers' goods imports into the United States are dominated by crude foods, mainly coffee, cocoa, tea, and sugar. Except for the "buying sprees" in the third quarter of 1950 and the first quarter of 1951, the reaction of the quantities of crude food imports to prices and to domestic consumption expenditures on nondurable goods was quite small, so that their import values moved in close relation to rising import prices. In the case of other consumers' goods, however—manufactured foods (excluding sugar) and manufactures other than food (excluding machinery)—importers were able to supply a larger proportion of the U.S. market; the value of each group doubled between mid-1949 and the second quarter of 1951. The increases for the two groups, which are composed primarily of marginal (or even, in part, "luxury") imports, are not only a function of domestic income and foreign availabilities; they depend to a major degree on the success of attempts to establish marketing, distribution, and servicing facilities, since competition in U.S. markets for these goods is highly imperfect. The set-back in these two groups of imports since the first quarter of 1951 has accordingly been relatively small.

As might have been expected, the effects of price differentials, insofar as they can be measured by an over-all comparison of import values and domestic wholesale prices, were probably strongest for manufactured imports. At least through 1950 the prices of imported manufactures appear to have risen less than the corresponding domestic wholesale prices of foods and nonfood products. But as domestic prices turned downward from their peak in the first quarter of 1951, the

price advantage of imports of manufactures diminished and thus must have been a contributing cause of the eventual downturn of manufactured imports.

From the foregoing discussion it appears that the first stage in the foreign trade developments which followed the decision that armament output must be more or less permanently increased consisted of a temporary, in part speculative, overimporting of raw materials followed by a reaction which appears to have gone too far. Though the quantities of raw materials imports cannot be expected to remain at their September 1951 low level, they are equally unlikely to revert to their high of the first quarter of 1951, unless domestic output rises considerably. Imports of manufactured consumers' goods will depend on foreign supply, which may be increasingly restricted by armament output expansion abroad, on relative domestic-foreign price developments, and on the continued success of the marketing efforts of foreign suppliers in the United States. Likewise, the volume of crude food imports is almost completely dependent on foreign supply.

Delayed movement of U.S. exports

The two food components of total exports, though the smallest of the main groups in absolute amount, fluctuated much more violently than the other groups during the period 1949-51, because of the reappearance of a demand for U.S. grains in Europe and Asia, following a period when in both these areas grain imports had not been needed. There was at the same time a sharp increase in the unit values of food exports, which in 1949 had consisted to a large extent of U.S. surplus commodities, subsidized by U.S. Government agencies and sold abroad at prices below world market levels. The value of wheat and wheat flour exports rose from $129 million in the second quarter of 1950 to $319 million in the second quarter of 1951. On the other hand, the quantities of nonfood raw materials exports (raw cotton, coal, tobacco, and petroleum) fell slightly. Their rise in value terms was due to a price rise (almost 35 per cent between the first quarter of 1950 and the second quarter of 1951), which was three times that for the value of total exports and was caused mainly by a rise in cotton prices resulting from the short 1950-51 U.S. cotton crop. Since cotton prices fell by as much as 15 per cent from the middle of the second quarter of 1951 through the third quarter, there was a small decline in the value of nonfood raw materials exports in the third quarter; the quantity exported, however, actually increased between the beginning and end of the quarter. Another important factor in sustaining the value level of this export group in 1951, even against the normal seasonal down-

ward trend, was the rise in coal and petroleum exports. As a result of increasing coal shortages in Europe, the value of U.S. coal exports rose from $88 million in the third quarter of 1950 to $195 million in the third quarter of 1951, and the increased reliance of foreign users of petroleum and its products on North American rather than Middle Eastern suppliers raised U.S. exports of petroleum and petroleum products from $125 million in 1950 to a level of $250 million in 1951.

Apart from these export groups, whose behavior can be explained by such special causes as have just been mentioned, most U.S. exports (about 70 per cent) consist of a wide variety of nonfood manufactures. The lag of exports behind imports is seen most clearly in this group. Even in the third quarter of 1950 neither the value nor the volume was significantly above the first quarter low; unit values were still falling slightly, and no pronounced increase was recorded until September. The upward movement was subsequently very rapid, paralleling the rise of imports which began in the third quarter. By the end of the second quarter of 1951, values had risen by 80 per cent, quantities by 54, and prices by 18.

Future developments of U.S. exports are still very dependent on foreign aid policy. An increasing use of aid to finance U.S. raw materials exports will necessarily make exports of nonfood manufactures more dependent on military or quasi-military aid.

Terms of trade

During the postwar years, the terms of trade of the United States have deteriorated steadily; this means that the cost of imports in terms of exports has risen with very little interruption. Between 1936-38 and 1946, U.S. import prices rose 13 per cent more than export prices, and by the end of 1948 they were 24 per cent higher. The sharp decline in imports which accompanied the domestic U.S. recession in 1949, producing an equally pronounced rise in the U.S. export surplus, depressed import prices only slightly more than export prices. Thus, the consequent single major interruption of the worsening of U.S. terms of trade, in the first half of 1949, improved the terms of trade by no more than 2 per cent (see Table 4).

It is remarkable that the 1949 devaluations apparently did not affect significantly the U.S. terms of trade. The continued deterioration in the last quarter of 1949 and the first half of 1950 was indeed at best arrested in November and December. Neither before nor after those two months had import prices declined noticeably, and by the end of the first quarter of 1950, the terms of trade were 6 per cent worse than before the September devaluations.

TABLE 4. U.S. EXPORT AND IMPORT PRICES AND TERMS OF TRADE,[1] JANUARY 1949-OCTOBER 1951

(1947-49 = 100)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1949												
Export prices	103	101	100	100	98	98	96	95	95	93	93	94
Import prices	106	106	104	101	100	99	98	97	98	97	96	97
Terms of trade	97.1	95.2	96.1	99.0	98.0	98.9	97.9	97.9	96.9	95.8	96.8	96.9
1950												
Export prices	94	92	92	92	91	92	92	93	96	98	98	102
Import prices	98	100	100	101	101	104	107	110	115	117	121	123
Terms of trade	95.9	92.0	92.0	91.0	90.0	88.4	85.9	84.5	83.4	83.7	80.9	82.9
1951												
Export prices	103	106	107	110	111	111	109	108	106	106		
Import prices	128	131	135	138	139	142	141	140	137	134		
Terms of trade	80.4	80.9	79.2	79.7	79.8	78.1	77.3	77.1	77.3	79.1		

[1] Terms of trade = price of exports divided by price of imports.

Source: U.S. Department of Commerce, Office of International Trade, *Total United States Export and Import Trade* (International Trade Statistics Series).

From mid-1949, the terms of trade moved against the United States for the next 26 months almost without interruption: the extent of the total deterioration was 22 per cent. To describe the causes of this deterioration, this period may be divided into three subperiods: from July 1949 through July 1950; from August 1950 through June 1951; and from July 1951 onward. It may be seen from Table 4 that the worsening of the terms of trade in the first of these subperiods was due to a *rise* of import prices (by 9 per cent) and a *fall* of export prices (by 6 per cent); in the second subperiod, both sets of prices rose, but imports (+33 per cent) more than exports (+21 per cent); and in the third, both fell, but by almost the same proportion (imports −3.5 per cent; exports −4.5 per cent), until October when export prices showed no change.

The impact of post-Korean developments on U.S. trade marked the beginning of the second subperiod; no imports which were ordered in consequence of the Korean outbreak could have reached the United States before August 1950. It is remarkable, therefore, that the deterioration of the U.S. terms of trade during the first subperiod was actually greater than that following the Korean invasion: from June 1949 to July 1950, the terms worsened by 14 per cent, while the additional deterioration through July 1951 was no more than 10 per cent.

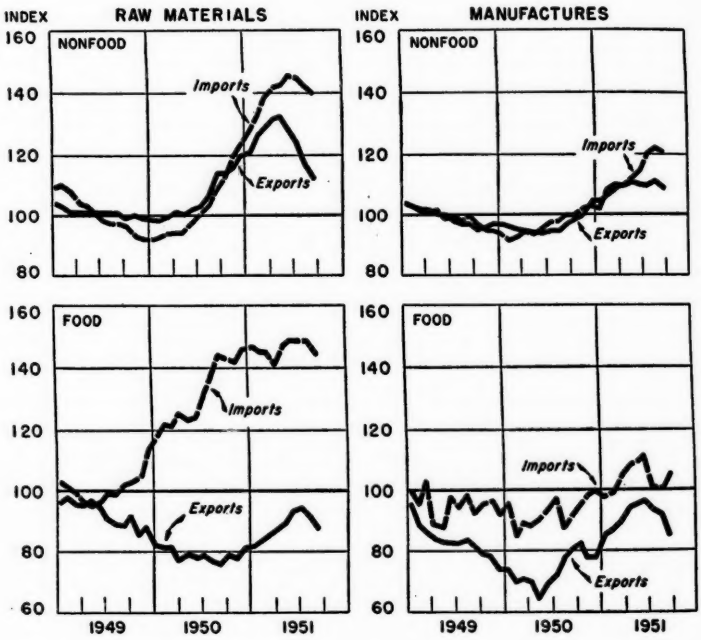
The explanation is to be found in three sets of facts. First, the prices of U.S. exports, whether manufactures or raw materials, are determined by domestic rather than foreign demand, while the prices of the major U.S. imports—i.e., raw materials—follow demand for them from outside the countries of their origin. Secondly, there is a fairly regular lag of export behind domestic wholesale prices, and of import behind foreign spot prices. Thus, export prices continued their decline beyond that of domestic wholesale prices (which had fallen during the domestic inventory readjustment earlier in 1949), through the first quarter of 1950, and import prices began to show the effects of increased U.S. import demand late in 1949. Thirdly, this increase in demand concentrated on raw materials, and special supply difficulties (particularly for coffee) produced a strong and early rise in crude food import prices (see Chart 4). This rise offset the decline over most of the first subperiod in the prices of imported manufactures and semimanufactures, U.S. demand for which developed later than that for crude materials. The result of all this was a worsening of the terms of trade in the first subperiod greater than would otherwise have been expected.

The terms of trade in the second subperiod, i.e., the year immediately following the Korean outbreak, were dominated by the two forces, working in opposite directions, already mentioned (see Chart 4). On

the import side, prices of imported nonfood raw materials rose by 46 per cent, while crude food prices increased 10 per cent between July and September and then stabilized; at the same time, semimanufactures prices rose by 33 per cent, and prices of finished manufactures, moving less and somewhat later, rose by 15 per cent. U.S. export prices, on the

CHART 4. Indices of U.S. Import and Export Prices by Major Commodity Groups, Monthly, 1949–51

(1947–49 = 100)



other hand, following domestic wholesale prices with a lag of 2-3 months, rose by 19 per cent. The sharp rise in export prices of nonfood raw materials (22 per cent), which accompanied the short domestic cotton crop, was an important factor in this general export price movement. The result was that the deterioration of the terms of trade, though rapid through March 1951, was slight for the last months of this period.

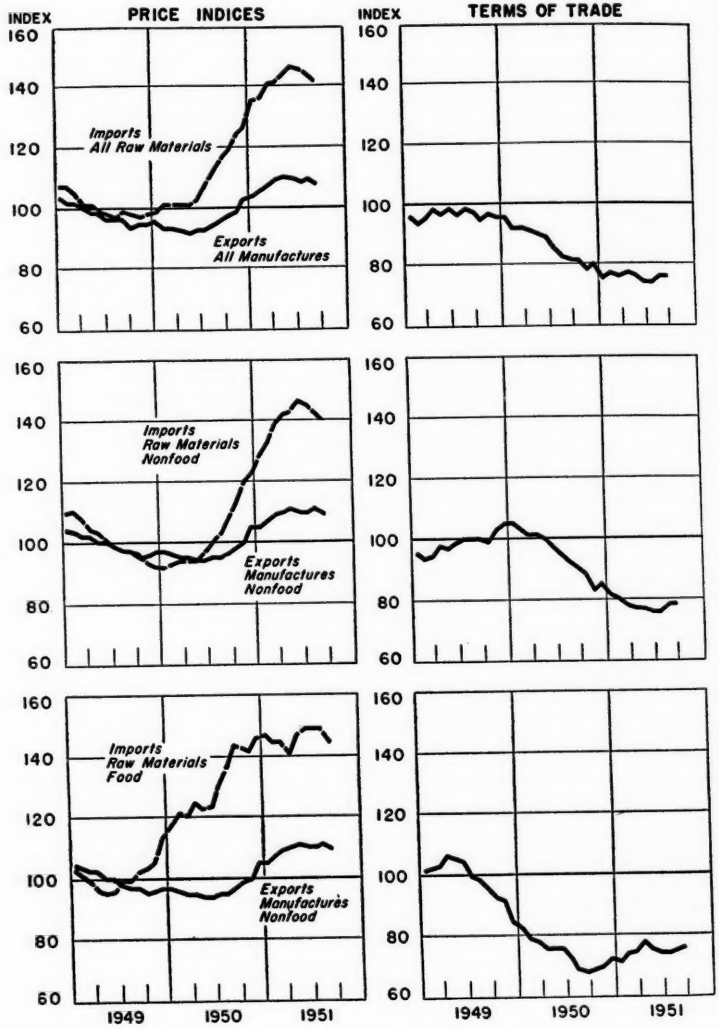
When the movement of domestic wholesale prices and the drop in the cotton price are considered, the slight improvement of the terms of trade since July-August 1951 may be attributed mainly to falling import prices of raw materials, which represents the effect of the drop in spot prices of major U.S. import commodities earlier in the year. The sharp worsening of the U.S. terms of trade during a period when imports were expanding very rapidly and exports (in spite of substantial foreign aid) were not keeping up with imports, suggests the extraordinary degree to which U.S. trade is independent of relative price movements. It has already been pointed out that only a small sector of U.S. imports is noticeably price sensitive. In addition to price movements, it required a slowing down of the rate of increase of internal activity plus determined Government intervention in raw material import markets and increases in foreign aid to produce a noticeable reaction of U.S. imports and exports in accordance with the worsened terms of trade.

In view of the divergences between the price movements for different commodity groups, as well as between the timing of their shipments to the United States, some diversity may be expected in the terms of trade of the United States vis-à-vis different areas. Price data for exports to and imports from particular countries or regions are not readily available, but a rough notion of some of the differences may be obtained from the partial terms of trade computed for major commodity groups. A comparison of the results of such computations (Chart 5) indicates the general magnitude of the movements in the terms of trade of some areas.

The upper right section of the chart shows movements in the terms of trade as between total raw materials imported into the United States and total manufactured exports. Even though U.S. export prices fell, the U.S. terms of trade, interpreted in this way, improved by almost 5 per cent in the second and third quarters of 1949, but then deteriorated steadily. In the first and second quarters of 1951 the deterioration reached a maximum of around 20 per cent, compared with a year earlier; by September, there was an improvement of only two percentage points over the June 1951 figure. These terms would indicate the balance of advantage and disadvantage of the trade between the United States and the less developed areas in the rest of the world as a whole.

Significant differences appear if separate calculations are made for food and for nonfood raw materials. Import prices of nonfood raw materials declined by about 15 per cent during 1949 and remained low in the first half of 1950 (see middle section of Chart 5). Since export prices of U.S. nonfood manufactures fell by only 7 per cent in 1949, the terms of U.S. trade vis-à-vis the suppliers of such raw materials

CHART 5. Indices of U.S. Import and Export Prices (1947–49 = 100) and Terms of Trade by Major Commodity Groups, Monthly, 1949–51



seem to have improved in that year, as the chart shows. When import prices later rose by more than 50 per cent, the terms of trade deteriorated rapidly.

Prices of crude food imports, on the other hand, had already begun to rise in 1949 (bottom section of Chart 5). This rise, dominated by the advance of coffee prices, was the result of tight supply conditions combined with rising U.S. personal incomes. The terms on which the United States traded nonfood manufactures for crude food imports had, therefore, already worsened by the middle of 1950 by more than 25 per cent compared with a year earlier. The first post-Korean domestic buying rush moved the terms of trade against the United States by an additional 10 per cent; in October 1950 import prices began to fall and prices of U.S. manufactured exports began to catch up, and by April 1951 the terms of trade had improved by almost 15 per cent. From May 1951 onward, when U.S. export prices began to recede in conformity with domestic wholesale prices, the movement was arrested; through August the terms of trade worsened very little but in September there was some slight improvement. The terms had again reached the same level as just before the Korean outbreak, and it appeared that further improvement could be expected.

The terms of trade with the United States of Latin American countries which are important food raw materials producers must have fluctuated in the manner indicated by these price movements. A U.S. Department of Commerce tabulation[13] which shows U.S. terms of trade with all Latin America deteriorating by 19 per cent from the first to the third quarter of 1950, improving 3 per cent by early 1951, and then worsening again, supports the view that the lower portions of Chart 5 may be accepted as presenting a fair picture for this area. Individual countries will have deviated from the area average presented in the Commerce figures to the extent to which they were nonfood and food raw materials suppliers.

In the same way the terms of trade for nonfood raw materials imports vis-à-vis nonfood manufactured exports may be taken as broadly representative of the position of certain sectors of the Outer Sterling Area and countries such as Indonesia and Thailand, with similar considerable variations for individual countries. For example, the terms of trade of Australia deteriorated first by 4 per cent from January to June 1950, and then by a further 62 per cent in the following 9 months; on the other hand, the terms of trade of India deteriorated 14 per cent from January to June 1950, but then improved 31 per cent in the next 9 months.

[13] This is the only official estimate of the U.S. terms of trade with any region available by quarters. It covers all Latin American countries and does not show the terms separately for individual countries or for any subdivisions of the region.

The terms of trade vis-à-vis Europe are more difficult to estimate because of the greater diversity of U.S. exports to that area. The increase in European exports to the United States from the first to the second half of 1950 was concentrated in such semimanufactured products as metals and manufactures, textiles and manufactures, and chemicals, as well as in finished manufactures. Unit values of imports of semimanufactured products rose about 20 per cent, and of manufactures 10 per cent, during the second half of 1950, and another 12 and 16 per cent, respectively, in the first half of 1951. If it can be assumed that U.S. exports to Europe, apart from manufactured items provided through U.S. Government aid, were mainly raw materials, the terms of trade of the United States vis-à-vis Europe may have improved by 1 per cent in the first of these half years and then deteriorated by almost 10 per cent in the second. The latter deterioration occurred in spite of the temporarily and artificially depressed prices of U.S. food exports in 1950 which was mentioned above.

While the over-all terms of trade moved against the United States in 1950-51, this general movement covered very diverse movements for particular countries. For countries where food raw materials are of dominant importance, the pre-Korean advantage of the supplying areas was appreciably reduced as prices of manufactured goods began to overtake prices of food. This development appears to have been in accordance with the normal time lag between fluctuations in prices of raw materials and of manufactured goods. Elsewhere, where nonfood raw materials are important, the advantage to the supplying area appears to have arisen mainly after the Korean outbreak through a bidding up of prices to a point where buyer resistance was encountered. Since the subsequent recession in world prices of such materials is reflected in trade values, these advantages enjoyed by the raw materials areas will also tend to decline. On the other hand, although prices of U.S. imports of semimanufactured and finished goods are unlikely to recede, in view of strong inflationary pressures in the supplying countries, the expected tightening of supply there is likely to cut the volume of U.S. imports of these commodities and thus reduce the more recent price advantages of their suppliers.

Area Distribution of Trade

During the first three quarters of 1950, when rising U.S. income attracted an increasing volume of imports, the sources of imports were largely determined by the supply capabilities of other countries. On the export side, the destination of the declining volume of shipments was influenced by the restrictive policies adopted by some countries in

1949, and by the reduced need for U.S. supplies which was reflected in the declining amount of U.S. financial aid. By the third quarter of 1950, U.S. imports from Europe, the Sterling Area, Latin America, and Asia had in each case reached their highest postwar point while, conversely, U.S. exports had just passed their lowest point. An important exception was Canada, where an investment boom, adequate monetary reserves, and relaxed import restrictions combined to attract larger exports from the United States. These trends were interrupted in the second half of 1950 and in early 1951 by the impact of the Korean war, which increased both U.S. imports and exports, although in varying degrees and with differences in timing.

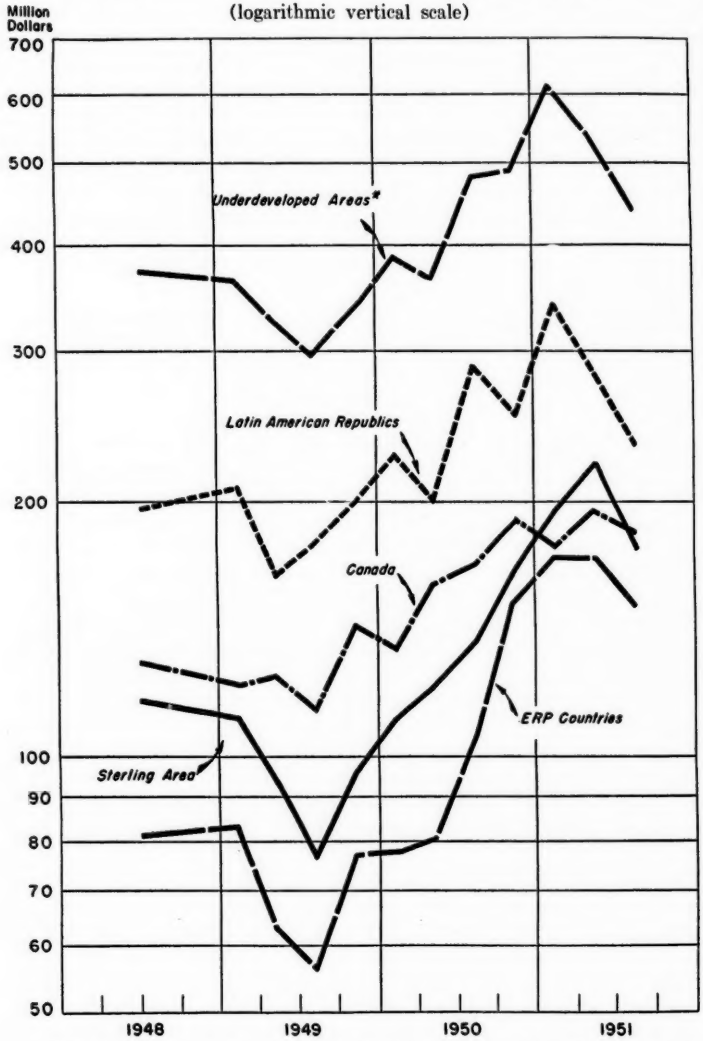
Sources of U.S. imports [14]

Changes in the behavior of U.S. imports from four major areas, and also from "underdeveloped areas" (which include Latin America, Outer Sterling Area, Eastern Europe and Greece and Turkey, and the underdeveloped non-sterling areas exclusive of Japan, in Asia and Africa) are shown in Chart 6. As a result of domestic U.S. developments, imports from all areas in the second half of 1949 recovered rapidly from their mid-1949 low; this recovery was followed by a lull which extended into the second quarter of 1950. The expansion was renewed even before any increased foreign demand consequent on the Korean outbreak could have become effective. There are some remarkable differences in the reactions of imports from the various areas to domestic trends of the second and third quarters of 1950 in the United States. Imports from the ERP countries showed the most pronounced rise, a sharp advance in August indicating a response to U.S. demand more violent than for any other area. Sterling Area imports show the second largest over-all rate of increase, followed by imports from the Latin American Republics (showing the effects of the violent fluctuations in coffee and sugar imports mentioned above) and from Canada. Imports from underdeveloped areas in general (of which the Outer Sterling Area and the Latin American countries are the major components) rose much more slowly than imports from the European industrial countries.

The area distribution as shown in Table 5 is generally consistent with our commodity group analysis in the preceding section. The unusually sharp increases in imports of semimanufactures and, though with a slight lag, in finished manufactures explain the record of the ERP countries. Nonfood raw materials imports account for the be-

[14] Data in this section are based on recorded general imports, which differ somewhat from balance of payments data.

CHART 6. Value of U.S. Imports from Major Areas and from "Underdeveloped Areas," Monthly Averages by Quarters, 1948–51



*"Underdeveloped Areas" include Latin America, Outer Sterling Area, Eastern Europe and Greece and Turkey, and underdeveloped non-sterling areas, exclusive of Japan, in Asia and Africa.

havior of Sterling Area imports, while imports from Latin America are dominated by the crude foods group. Nor is it surprising that the reduction of U.S. imports after March 1951 was of catastrophic proportions for the Sterling Area whose three major exports to the United States, rubber, tin, and wool, suffered most severely from the decrease in U.S. demand. A similar precipitate decline pulled Latin American exports to the United States down to pre-Korean levels. Although this was in part seasonal, the same forces were also at work here as in the Sterling Area. On the other hand, as imports of manufactures survived relatively well, and the need in the United States for imported semi-

TABLE 5. SOURCES OF U.S. IMPORTS, QUARTERLY, 1950-51

(In per cent of total imports)

Area	1950				1951		
	I	II	III	IV	I	II	III
Europe							
ERP countries	13	13	14	17	17	17	18
Other	2	2	2	1	1	1	2
Canada	21	25	21	22	17	20	22
Latin American Republics							
Dollar countries	24	21	22	17	19	17	18
Nondollar countries	12	11	14	12	15	11	10
Outer Sterling Area	14	15	13	14	16	18	16
Other Asia, Africa	14	13	14	17	15	16	14
Underdeveloped Areas [1]	62	57	61	56	61	54	53

[1] Includes Latin America, Outer Sterling Area, Eastern Europe and Greece and Turkey, and the underdeveloped non-sterling areas, exclusive of Japan, in Asia and Africa.

Source: Compiled from U.S. Department of Commerce data.

manufactures was only beginning to decline even in the third quarter of 1951, Western Europe was relatively little affected.

Western Europe: Imports from Western Europe averaged $81 million per month in 1948, then dropped to $60 million in the second and third quarters of 1949, and rose again during the first half of 1950 to a monthly rate of $80 million. After the outbreak of hostilities in Korea, there was an increase of almost 90 per cent, to an average of about $150 million a month in the last quarter of 1950, another 25 per cent rise to a peak of $187 million in March, and then a drop to a monthly average of $150 million in the third quarter.

The rise in U.S. imports during the second half of 1950 was shared by all Western European countries, and everywhere the level of U.S.

purchases was higher than that recorded before the effects of the U.S. recession of 1949. In the first quarter of 1951, imports from one group of countries (Italy, Switzerland, and the Netherlands) began to decline, while imports from Germany, the "all other" group (mainly Scandinavia), France, Belgium-Luxembourg, and the United Kingdom rose further, and declined only in the second and third quarters, imports from the United Kingdom as well as from Eastern Europe (mainly Yugoslavia) being less affected by this decline than those from the other countries. Thus, the exports of countries in the first group never rose substantially above their pre-Korean levels, while the exports of the second group were, in the third quarter of 1951, above those levels, by percentages ranging from 25 (U.K.) to several hundred (Germany, France).

A further striking fact is that the seven countries which are shown separately in Table 6 increased their shipments to the United States by nearly 140 per cent, while their shipments to the rest of the world rose by only 34 per cent. Except for Belgium-Luxembourg and Switzerland, this rise in the proportion of West European exports going to the United States continued through the third quarter of 1951.

Consumer goods accounted for most of the rise in U.S. imports in the third quarter of 1950, reflecting the influence of rising U.S. income payments in previous quarters. By the last quarter of that year, however, the increase in European shipments was being augmented heavily by semimanufactures, such as steel mill products and chemicals, and these showed the largest percentage increases during the next year (see Table 6). The importance of these materials for rising U.S. defense production no doubt goes far to explain the continued high level of shipments in 1951 from the United Kingdom, France, Germany, Belgium-Luxembourg, and the Netherlands. Shipments from Italy, Switzerland, and some Scandinavian countries, on the other hand, were not so well maintained in 1951 as in the fourth quarter of 1950. But even in these countries, imports of metals, steel mill products, machinery and vehicles, and industrial chemicals were still rising when total imports had already begun to fall. In addition—and this applies especially to Germany—the continued sharp rise of shipments to the United States followed continued domestic progress outside the United States which made more goods available for export. There were also some special reasons for the continuance of high levels of certain exports, such as the French chemical exports, to the United States. Nevertheless, it appears that the peak of the post-Korean boom was passed, even for European exports to the United States, by the third quarter of 1951.

TABLE 6. PRINCIPAL U.S. IMPORTS FROM SELECTED EUROPEAN COUNTRIES, QUARTERLY TOTALS, 1950-51

(In millions of U.S. dollars)

	1950			1951		
	II	III	IV	I	II	III
Belgium and Luxembourg: Total	30.1	29.4	51.3	65.0	55.1	49.2
Chemicals and related products	0.7	1.3	1.5	3.1	3.0	5.9
Flax, hemp, etc	1.3	1.7	3.1	3.6	2.8	1.8
Machinery and vehicles	0.1	0.2	0.6	0.8	0.7	0.8
Precious and semi-precious stones	7.2	8.7	7.9	12.8	8.9	7.7
Steel mill products	5.7	5.1	15.4	22.3	20.0	14.4
France: Total	20.2	34.8	55.0	80.7	72.7	62.8
Chemicals and related products	0.9	2.5	9.1	19.7	18.3	13.6
Steel mill products	0.8	3.8	13.0	24.1	23.6	20.2
Germany: Total	17.2	25.9	46.0	51.3	61.6	62.1
Chemicals and related products	3.8	2.8	5.4	7.7	8.9	8.2
Iron and steel manufactures	0.4	0.5	1.0	1.4	1.5	1.4
Machinery and vehicles	0.9	1.7	2.4	2.9	4.6	4.2
Steel mill products	2.2	5.8	17.3	18.7	25.3	26.1
Italy: Total	19.2	26.1	39.6	36.4	33.4	31.2
Chemicals and related products	0.1	0.1	0.5	0.8	0.9	1.0
Machinery and vehicles	0.8	0.8	1.1	1.4	1.4	1.5
Textile manufactures	3.4	5.9	10.7	10.6	9.4	7.8
Netherlands: Total	15.1	28.8	29.2	30.4	27.2	30.7
Chemicals and related products	0.6	1.6	1.5	2.6	3.2	4.1
Metals and metal products	6.1	10.7	11.5	11.1	10.1	6.5
Precious and imitation stones	1.0	1.3	1.5	3.0	1.7	1.2
Switzerland: Total	21.3	28.5	37.8	33.8	31.0	29.5
Chemicals and related products	1.3	2.3	2.9	2.5	2.1	1.5
Machinery and vehicles	1.1	0.9	1.7	1.7	3.3	2.3
Metals and metal products	0.9	0.7	1.3	1.4	1.1	0.7
Textile manufactures	3.6	4.1	6.3	6.8	4.2	3.9
United Kingdom: Total	69.6	94.2	114.4	113.5	120.5	112.1
Chemicals and related products	3.1	5.1	7.8	8.7	9.2	9.2
Machinery and vehicles	8.8	10.4	13.2	12.5	15.3	14.8
Steel mill products	0.9	1.5	4.8	6.1	5.1	4.0
Stone, clay, and glass (including precious stones)	3.4	4.0	6.6	13.6	21.5	16.7
Textile manufactures	20.9	27.1	31.2	33.0	30.2	30.1

Source: U.S. Department of Commerce, Bureau of the Census, *U.S. Imports of Merchandise for Consumption* (Report No. F120).

Canada: U.S. imports from Canada, after a recovery from the mid-1949 decline which was somewhat sharper than that of imports from the other areas, showed only a very moderate post-Korean reaction. The mixed behavior of imports of Canadian origin, such as newsprint, woodpulp, lead, and zinc, furnishes an explanation. The increase of imports from Canada ceased as early as September 1950.

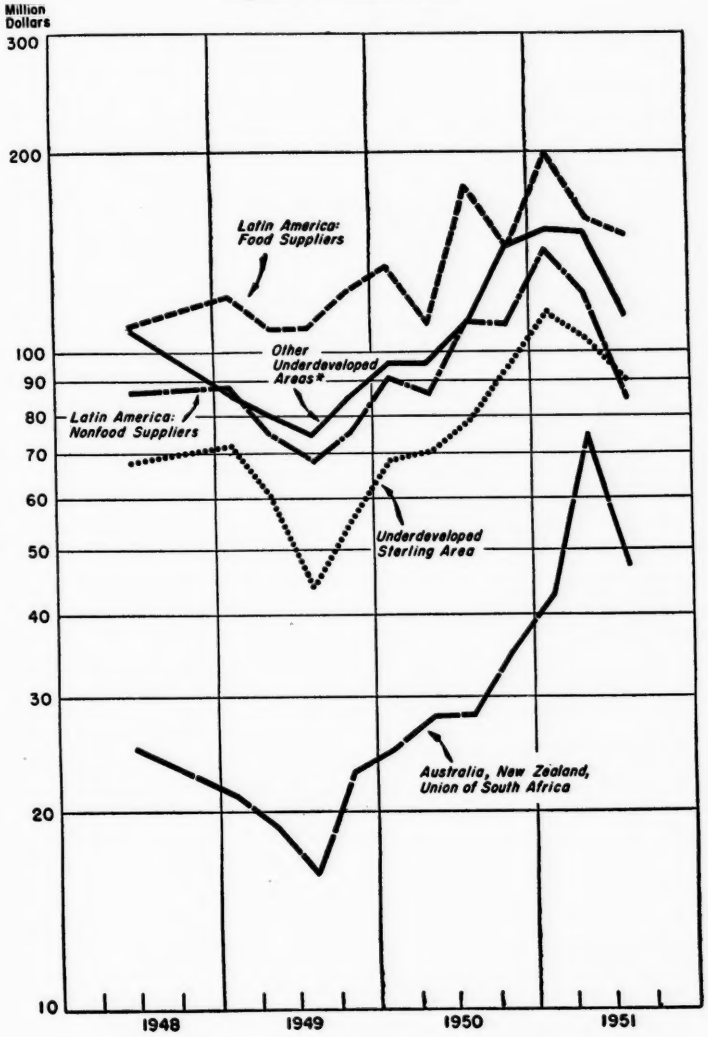
Latin America: Latin America, which was only slightly affected by either the U.S. recession in 1949 or the developments consequent on the Korean outbreak (Chart 6), may be subdivided either by major types of exports to the United States or according to whether dollars are the major means of international settlement. The exports of non-food suppliers, as would be expected, were more sensitive both to the 1949 recession and to the Korean stimulus (Chart 7). These countries, plus Brazil and especially Argentina and Uruguay, i.e., the main non-dollar countries, also account for the larger part of the serious decline of imports into the United States after March 1951.

Closer inspection of individual country data indicates considerable diversity in each group, however, and an adequate explanation of the differences would require reference to the market conditions of the particular commodities which dominate the dollar earnings of particular countries. Thus, in the nondollar group much of the sharp increase in shipments seems to be a consequence of the wool and coffee price rises that followed the rise in U.S. imports at the end of 1949 and again in the first half of 1950 (Brazil, Argentina, Uruguay, but also Colombia and Central America). The sharp reduction in U.S. imports of these two commodities that began in the second quarter of 1951 reversed the movement of imports from these countries. In the dollar group, the peak for U.S. sugar imports in the third quarter of 1950 and the subsequent decline are reflected in corresponding fluctuations in Cuba's shipments to the United States, while the steady level of U.S. petroleum imports up to June 1951 explains the absence of any post-Korean rise in Venezuelan shipments.

Other raw materials supplying areas: Next to imports from Western Europe, those from the non-Latin American raw material supplying areas rose most rapidly in 1950-51. Imports from the "other underdeveloped areas" (i.e., underdeveloped areas outside Latin America and the Sterling Area) had in mid-1950 just exceeded their 1948 level; subsequently, sharp price increases of their major export products (rubber and tin in particular) raised their exports to the United States by 80 per cent (January and April 1951). By July, however, there had been a fall of 22 per cent, and after a temporary interruption, a further fall of 25 per cent by September. The Outer Sterling Area shows much the same record, which, however, conceals great divergencies in its

CHART 7. Value of U.S. Imports from Raw-Material Supplying Areas, Monthly Averages by Quarters, 1948–51

(logarithmic vertical scale)



* Underdeveloped areas outside Latin America and the Sterling Area.

component parts. Imports from the three main wool supplying countries—Australia, New Zealand, and the Union of South Africa—illustrate the rather late reaction to the pre-Korean boom; there was a short-lived but violent advance, reaching by April 1951 a peak level fully 160 per cent above the last pre-Korean month. The collapse of wool imports forced an abrupt decline in September to a level of only one third of this peak. The remainder of the Outer Sterling Area imports were by January 1951 80 per cent above those in June 1950; the subsequent movement was downward, and very much accelerated after July. The full force of post-Korean U.S. demand increases thus had its impact first on the non-sterling raw materials suppliers, next on the nonwool-supplying Sterling Area, and last on the wool suppliers. As the analysis in the preceding section has indicated, the greater part of the rise in import values of nonfood raw materials from these areas was a result of price increases, quantities at first rising only moderately, and later receding to their early 1950 levels.

Destination of U.S. exports

The general character of their economies determines the type of product imported by other countries from the United States, the industrial areas taking relatively more raw materials while the less-developed areas purchase relatively more manufactured goods. This differentiation is illustrated in Table 7, which shows the leading U.S. exports in 1950 to the major areas. Although the classification is incomplete, it correctly indicates that about half of all U.S. raw material exports go to Europe, and that most of the rest are taken by Canada and the Far East. On the other hand, about two thirds of the manufactured products go to Latin America and Canada, which are the rapidly developing areas with substantial buying power. The Far East includes both industrial countries and raw material suppliers, and accordingly absorbs both raw materials and manufactures in roughly the same proportions.

During 1950 and 1951, the area pattern of U.S. exports was rather more stable than the area pattern of U.S. imports. As Table 8 shows, 34 per cent of U.S. exports went to Europe in the third quarter of 1951, while the proportion to Latin America was 27 per cent, both approximately the same as in early 1950. Canada's proportion increased at first from 17 to 21 per cent, mainly because the upturn in Canadian buying began earlier than that of other areas, only to recede again in later quarters. The proportionate share of shipments from the United States to Latin American countries, seasonal

TABLE 7. PRINCIPAL U.S. EXPORTS TO MAJOR AREAS, 1950

(In millions of U.S. dollars)

	Europe	Far East	Canada	Africa	Latin America
Leading Raw Materials					
Coal, petroleum	111	[1]	407	23	[1]
Cotton, tobacco	765	370 [2]	64 [2]	[1]	[1]
Foodstuffs	624	210	141	20	189 [3]
	1,500	580	612	43	189
Leading Manufactures					
Chemicals	[1]	145	124	[1]	269
Machinery, automobiles	616	248 [4]	596	159	975
Metals, mill products, etc.	192	77	335	25	139
Textile manufactures	[1]	[1]	67	27	205
	808	470	1,122	211	1,588
All other exports	708	351	282	108	891
Total	3,016	1,401	2,016	362	2,668

[1] Included in "all other."
[2] Cotton only; tobacco included in "all other."
[3] Only rice, flour, and other grain and vegetables.
[4] Machinery only; automobiles included in "all other."
Source: U.S. Department of Commerce, *Foreign Commerce Weekly*, April 16, 1951. Data exclude "special category" exports purchased for cash and MDAP (Military Defense Assistance Pact) shipments. Figures shown by commodities do not represent a complete classification of such exports, since exports which are relatively minor for a particular area are included in the "all other" category.

TABLE 8. DESTINATION OF U.S. EXPORTS, QUARTERLY, 1950-51

(In per cent of total exports)

	1950				1951		
Area	I	II	III	IV	I	II	III
Europe							
ERP countries	33	30	29	32	32	33	32
Other	1	1	2	1	2	1	2
Canada	17	21	21	20	19	19	18
Latin America							
Dollar countries	20	19	21	20	19	17	18
Nondollar countries	5	6	7	7	7	7	9
Outer Sterling Area	9	8	7	7	8	8	10
Other Asia, Africa	15	15	13	13	13	15	11
Underdeveloped Areas [1]	46	44	44	43	43	44	46

[1] Includes Latin America, Outer Sterling Area, Eastern Europe and Greece and Turkey, and the underdeveloped non-sterling areas, exclusive of Japan, in Asia and Africa.
Source: Compiled from U.S. Department of Commerce data.

changes apart, remained practically constant, dollar countries, however, losing to the nondollar countries. This parallels the difference previously noted with respect to imports from these two subgroups. The share of the Outer Sterling Area and of other countries in Asia and Africa declined during the first three quarters of 1950, and this was apparently the main factor accounting for the decline in the share of the underdeveloped group as a whole, from 46 per cent in the first quarter of 1950 to 43 per cent later in the year. The large dollar earnings of these areas in 1951 enabled them, and especially the Outer Sterling Area, to raise their share beyond the level of late 1950.

To some extent the shifts in the proportions of U.S. exports going to major areas is explainable by the directional effects of the U.S. Government aid program and export controls; they also reflect policy differences among the buying countries with respect to their use of currently accruing dollar earnings.

Directive effect of Government aid

International aid extended by the United States, whether for economic development, balance of payments, or military purposes, tends to influence the flow of international trade in two ways: it increases the proportionate share of internationally traded goods going to the aided countries, and it tends to increase the proportion of their trade supplied by U.S. markets.

From 1947 to 1950, as Table 9 shows, both U.S. exports and U.S. Government aid tended to fall. The lowest quarterly figure for exports, $2.4 billion, was recorded in the first quarter of 1950; they were somewhat higher in the second and third quarters; and subsequently they rose sharply, to $4.1 billion by the second quarter of 1951. The increases in the last quarter of 1950 and the first half of 1951 were aided by Government financed shipments, which rose from $0.9 billion in the third quarter of 1950 to $1.3 billion in the second quarter of 1951.

About three fourths of U.S. Government aid over the past four years has gone to Europe, although the amounts going to the Far East also have been substantial. During this period as a whole, about 70 per cent of U.S. aid appears to have been "tied" to U.S. exports in the sense of directly financing shipments of goods and services originating in the United States.[15] The "tied" aid declined from 40 per cent of total exports in 1949 to about 25 per cent in the

[15] That is, military aid (MDAP), Army Civilian Supply Program payments, Export-Import Bank loans, and payments for ECA shipments other than offshore.

latter part of 1950 and early 1951. As the military assistance program expands, an increasing proportion of total aid is likely to be "tied" aid going to European countries, but it will be more widely distributed within Europe than heretofore.

For some individual countries and areas, the value of their imports from the United States is directly dependent upon the amount of "tied" aid which they receive. Thus, for all ERP countries, "tied" aid provided 60 to 80 per cent of their purchases from the United States in 1950-51; the fluctuations in the two series, aid and U.S. exports, therefore were necessarily very similar in those years. The relative importance of "tied" aid declined, however, during the

TABLE 9. U.S. EXPORTS AND U.S. GOVERNMENT AID, 1947-51

(In billions of U.S. dollars)

	1947	1948	1949	1950	1951 [1]
Total U.S. exports	16.0	13.3	12.3	10.7	15.0
Government aid					
Europe	4.4	4.0	4.7	3.4	3.7
Canada	0.0	0.0	0.0	0.0	0.0
Latin America	0.2	0.0	0.1	0.0	0.2
Sterling Area (non-U.K.)	1.2	0.0	0.1	0.1	0.1
Other countries		0.9	1.0	0.7	0.8
International institutions	3.1	0.1	0.1	0.1	0.0
Total	8.9	5.0	6.0	4.3	4.8

[1] Annual rates compiled from data for first three quarters.
Source: U.S. Department of Commerce, *Survey of Current Business*, selected issues.

latter part of 1950, when the ERP countries began to make increasing amounts of unaided purchases in the United States; in the fourth quarter of 1950, "tied" aid accounted for 66 per cent of total exports, and in early 1951 for 62 per cent.

Widening area of Government control

During 1950 and 1951 the influence exercised by the U.S. Government in U.S. international transactions increased significantly. This influence took various forms which are significant for third countries as well as for the countries directly affected. Direct controls increasingly encroached on the field in which price and income differentials determine the flow of international trade. Instead of the controls being in the hands of a single Government, responsibility for some of them has recently been shared by international organi-

zations, such as the International Materials Conference and the North Atlantic Treaty Organization.

U.S. export controls

Under the Export Control Act of 1949 (now extended through June 1953), four types of U.S. export controls have been imposed:

(1) An embargo which has been in effect since June 1950 on all shipments to North Korea.

(2) The establishment of a "positive list" of commodities which can be exported only under license. This was gradually expanded from less than 700 items in the second quarter of 1950 to about 1,400 items in early 1951, of which about two fifths apply to destinations outside the Western Hemisphere, and the other three fifths to all destinations except Canada. (Exports to Canada remain uncontrolled.) No licenses have been issued for exporting positive list commodities to China since July 20, 1950, and none for any commodity to the Chinese mainland since December 3, 1950, when all commodities for that area were brought under license control. This form of control was extended in the first quarter of 1951 to shipments for the Soviet bloc.

(3) Quantitative export limits for an increasing number of commodities, of which raw cotton, sulphur, the major nonferrous metals, and certain petroleum products have been the most important.

(4) Priority ratings for foreign orders (up to one sixth of the value of corresponding 1950 exports), beginning in May 1951, to provide friendly foreign countries with reasonable access to replacement parts for industrial equipment, and with new equipment destined for strategic production.

The effect of the embargo and the positive list has been to reduce almost to zero U.S. exports to the Chinese mainland, the U.S.S.R., and the other Eastern European countries in the Soviet bloc.

The effect of the quantitative export quotas has so far been small, except for sulphur and cotton, where the purpose and effect were to allocate available supplies on an equitable basis. The U.S. cotton crop was unusually small in 1950 and cotton exports would have fallen in any case. During the six months November 1950 through April 1951 only 2.4 million bales were exported, compared with 3.5 million in the comparable period of the previous crop year. The short crop brought higher unit prices, however, and the value of the smaller amount

TABLE 10. U.S. EXPORTS SUBJECT TO CONTROL, FIRST QUARTER, 1950 AND 1951

	Value (*million dollars*)		As Percentage of Area or Commodity Group	
	1950, first quarter	1951, first quarter [1]	1950, first quarter	1951, first quarter [1]
By Area Destination				
Europe				
Western Europe [2]	228	563	29	51
Eastern Europe [3]	6	0.1	26	100
Latin America	94	182	15	20
Asia, Oceania, Africa	92	316	17	46
All Areas	420	1,061	18	32
By Commodity Group				
Chemicals and related products	37	50	22	25
Foodstuffs	0	2	0	0.4
Machinery and vehicles	195	232	26	26
Metals and manufactures	112	132	58	55
Nonfood animal and vegetable products	4	20	3	9
Nonmetallic minerals	62	103	36	42
Textile fibers and manufactures	4	238	1	52
Wood and paper	0.3	2	1	3
Miscellaneous	3	2	2	1

[1] The published data classify exports into "total controlled exports" and "total controlled exports excluding special category classes." A comparison of these two classifications indicates that practically all the "special category" exports are controlled.

In this table the 1951 data by area have been estimated to include "special category" exports.

The 1951 data by commodity groups exclude "special category" exports with the following exceptions: $35 million worth of "special category" exports are included in the nonmetallic minerals group, and $9 million worth of such exports are included in the nonfood animal and vegetable products group. Therefore, the sum of controlled exports by commodity groups is $269 million less than the published data for total controlled exports. The decline in the controlled export percentages between the first quarter of 1950 and 1951 may thus be due, in part, to the omission of the $269 million worth of "special category" exports—especially the omission from the metals and machinery groups.

[2] Includes in 1951 all ERP countries and other European countries outside the Soviet bloc.

[3] Finland and Yugoslavia are excluded from this total in 1951 but are included with Western Europe.

Source: *Export Control* (Quarterly Reports by the Secretary of Commerce).

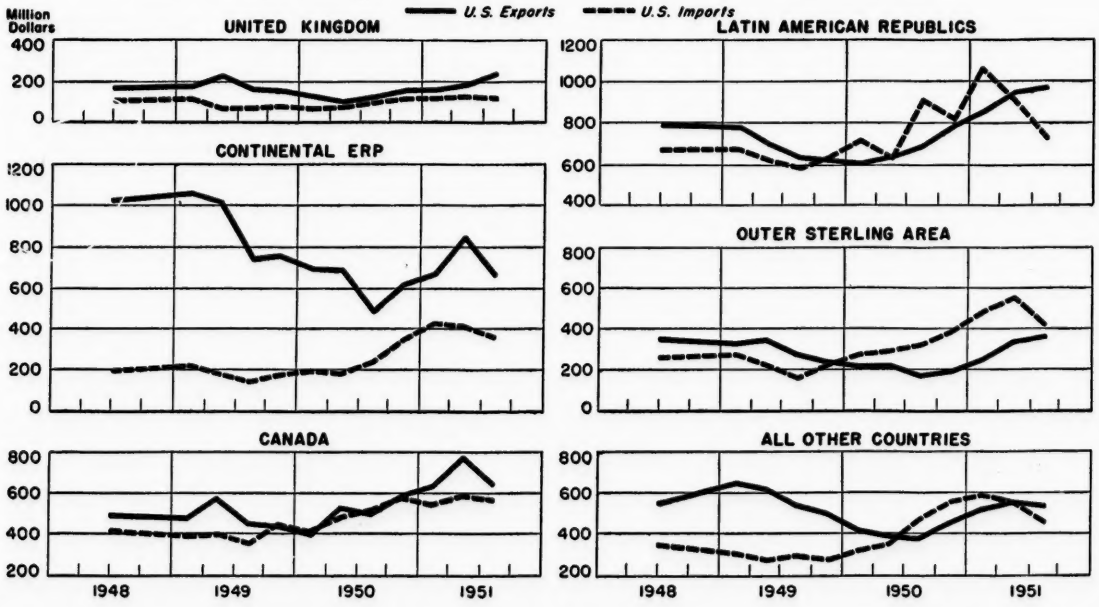
exported was within 2 per cent of the previous year's larger shipment. In August 1951 the quotas were suspended when it became evident that a larger crop was in prospect.

The effects of the licensing controls can be measured only imperfectly. Published statistics show the value of controlled exports but do not adequately indicate to what extent exports may have been reduced by the refusal of licenses. Even with these qualifications, the data in Table 10 on the value of controlled exports are still significant in showing the extension of controls during 1950. From the first quarter of 1950 to the first quarter of 1951 the proportion of total exports subject to control increased from 18 to 32 per cent, but of all exports outside the Western Hemisphere more than 45 per cent were subject to control. The sharp rise in exports to Western Europe after August 1950, however, would suggest that licenses to that area have been granted relatively freely. The commodity data in the table show that chemicals, minerals, metal manufactures, machinery and vehicles (and also, though temporarily, textiles) have been subject to licensing control to a substantial extent.

The figures for the first quarter of 1951 probably understate the applicability of controls later in the year. It is understood that license applications were rejected in substantial amounts during the second quarter of 1951 because of short domestic supply. The effect of this action may be expected to show up in reports on exports for the third and fourth quarters of the year.

To sum up this discussion, the resulting U.S. merchandise balance with the major areas for which adjusted trade figures are available is presented in Chart 8. As the stimulus to U.S. trade varied among the several areas, so the merchandise trade balances also developed differently. With the Outer Sterling Area, Latin American Republics, and raw material suppliers in Asia and Africa, the previous trend toward a better U.S. import-export relationship was accentuated and a U.S. import surplus developed. In some areas, as Chart 8 shows, this import surplus was already in evidence by the first quarter of 1950, while in others it developed later. It tended to reach a peak in late 1950 or early 1951 when raw material imports and prices were generally at record high levels, and tended to narrow or even to be turned into a U.S. export surplus in the second and third quarters as U.S. purchases fell off while exports continued with less interruption. In Canada the smaller rise in prices of exported raw materials and semimanufactures did not interfere with a continued growth in exports to the United States, but imports from the United States rose even more rapidly, being financed largely by dollars received from a large capital inflow.

CHART 8. Origin and Destination of U.S. Merchandise Trade, Quarterly Totals, 1948–51 *



* Total trade, excluding MDAP-financed exports but including other unrecorded imports and exports.

With the United Kingdom and Western Europe the progressive improvement in trade relationships continued through the third quarter of 1950, then worsened as an increase in U.S. imports in the fourth quarter was accompanied by a greater increase in aid-financed exports. U.S. imports from ERP countries had begun to rise before "unaided" U.S. exports to that area, however, and this improvement in the unaided part of the U.S.-European trade was the most marked since the inception of the European Recovery Program. The sharp decline of U.S. imports, combined with a reduction in exports, began to reverse the area balances again in the third quarter of 1951.

Disposition of Dollar Earnings by Area

In an earlier section of this paper it was shown that countries outside the United States appear (in the aggregate) to have varied their "unaided" imports from the United States according to their dollar earnings from exports to the United States one or two quarters earlier. This general relationship is discernible also when the data are classified by area, although there are substantial disparities between the areas, which are partly explainable by differences in their multilateral dollar settlements with third areas.

When all sources and uses of dollars (except merchandise imports from the United States) are summed up by area, it appears to have been the rule in 1950 that improvements in the dollar supply were not matched by a comparable rise in imports. The slowness of the import response resulted in substantial additions to the gold and dollar reserves of all areas. By early 1951, however, dollar imports of most areas had risen substantially, and the rate of acquisition of gold and dollar assets was being rapidly reduced. For raw material supplying areas, the decline in the current dollar supply was due mainly to a fall in U.S. imports of raw materials; but for the United Kingdom, the fall in the dollar supply reflected the rapid growth of U.K. payments in dollars to third areas (especially Europe and Latin America), coupled with some reduction in U.K. receipts of dollars from the Outer Sterling Area.

Dollar imports in relation to export earnings and multilateral settlements [16]

For the United Kingdom and the Continental ERP Area, the first two sections in Chart 9 show a general conformity between unaided

[16] For brevity, exports to the United States and imports from the United States by other countries will be designated here as dollar exports and dollar imports. (This differs from the conventional usage, according to which dollar imports include imports from any country that customarily settles its international balances in dollars.)

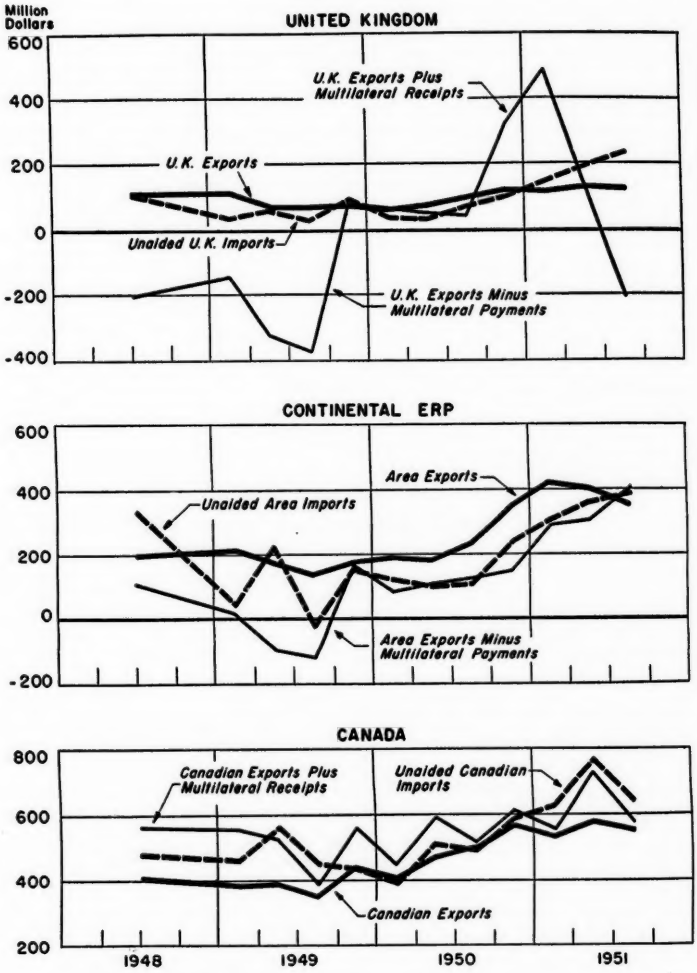
imports from the United States and the respective earnings from dollar exports. For the United Kingdom, however, the trade balance has tended to vary according to the direction and size of multilateral dollar settlements. In 1948-49, when such settlements required substantial dollar payments, the United Kingdom was running a trade surplus (not counting aid-financed imports) with the United States. In the third quarter of 1950, U.K. imports began to rise about nine months after multilateral receipts had turned sharply upward; in 1951 imports gained impetus, rising above exports as the United Kingdom received a large net inflow of dollars, both from the ERP Area and from the Outer Sterling Area.[17] The sharp shift to an outflow of multilateral dollars in the second and third quarters of 1951 reflected a reversal in the relationship with the ERP and Outer Sterling Areas, and an apparent outflow also to Latin America. From the chart it is evident that the sharp shift of about $700 million (quarterly) in multilateral dollar settlements during 1951 was several times larger than the loss of dollars through rising imports from the United States. The U.K. Government has announced its intention of curtailing U.S. imports, however, and previous experience, as summarized on the chart, would suggest that the quarterly rate of unaided dollar imports may decline by $100-200 million during 1952.

For Continental ERP countries, the rate of unaided dollar imports (relative to dollar exports) appears to have been more strongly influenced by the outflow of multilateral dollar payments, both in 1948-49 when the outflow of payments was becoming greater and in 1951 when the continuing rise in imports could be supported by a favorable turn in multilateral settlements although exports to the United States were falling off. (It is not necessarily the case, of course, that the recent multilateral dollar receipts accrued to the same countries which were experiencing the dollar trade deficit.) In part the 1951 divergent movements of imports and exports may also reflect the lag hypothesis previously advanced; the upturn in dollar exports in 1950 was not followed by an upturn in imports until one quarter later.

For Canada multilateral settlements have facilitated triangular trade, as a surplus with the United Kingdom has provided dollars with which to cover a deficit with the United States. As the Canadian section on Chart 9 shows, both multilateral receipts and the trade deficit have tended to narrow over the past two years. A rise in imports

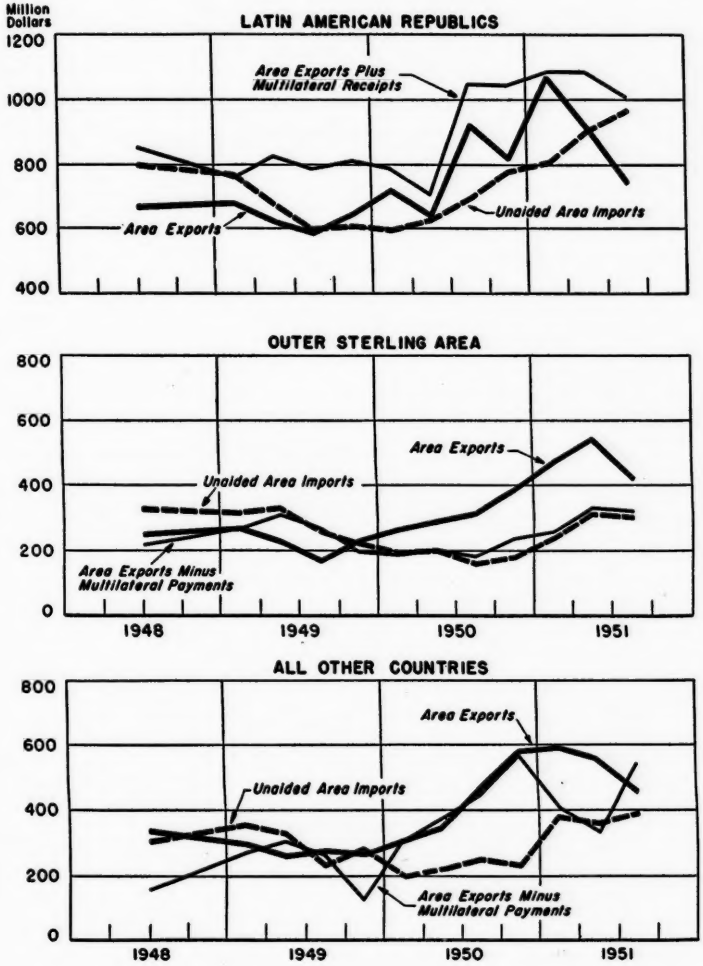
[17] In each period it will be noted that the difference between dollar exports and unaided dollar imports was only a small part—about a fifth—of the net outflow or inflow of multilateral dollar settlements. The smallness of the impact of dollar settlements on imports is probably attributable to the central position of the United Kingdom as a repository of balances for the Sterling Area.

CHART 9. Value of Exports and Imports and Multilateral Settlements of Major Areas Vis-à-Vis the United States, Quarterly Totals, 1948–51 *



*While imports from the United States financed by U.S. aid are excluded from the data, U.S. aid payments for area imports from third countries are reflected in multilateral settlements.

CHART 9. Value of Exports and Imports and Multilateral Settlements of Major Areas Vis-à-Vis the United States, Quarterly Totals, 1948–51 *



* While imports from the United States financed by U.S. aid are excluded from the data, U.S. aid payments for area imports from third countries are reflected in multilateral settlements.

from the United States began in the second quarter of 1950, about two quarters after an upturn in exports, but it tended to increase faster than the proceeds available from exports and multilateral receipts. In the third quarter of 1951, when multilateral receipts declined sharply, Canadian imports also were brought sharply down.[18]

The Latin American section of Chart 9 shows a fairly consistent lag of imports from the United States behind exports. During 1948-49 when this lag entailed a trade deficit, the balance was covered by large multilateral receipts. During 1949-50 when the lag entailed a rising trade surplus, the continuance of multilateral receipts added considerably to the current supply of dollars. In 1951 when exports to the United States fell off sharply, the widening margin of multilateral receipts helped to support the continuing rise of imports. Here, as in Western Europe, however, it needs to be kept in mind that the data are aggregates for a number of countries and the multilateral dollar receipts did not necessarily go to the same countries that experienced a trade deficit.

In the Outer Sterling Area, a full year passed after exports to the United States had begun to rise before dollar imports began their upturn; in the interval large multilateral dollar payments were made. In this respect the chart for the Area is complementary to that for the United Kingdom, although net payments of the Outer Sterling Area were evidently much smaller than net multilateral dollar receipts by the United Kingdom during the period. That these payments were in the nature of a residual, representing surplus dollar receipts of the Area, is suggested by the fact that they fluctuated closely with the trade surplus, even falling off sharply in the third quarter of 1951, parallel to the decline in exports.

The section of the chart representing "all other" countries includes mainly the Far East and Middle East, exclusive of Sterling Area countries, and reflects much the same raw material and import situation as that of the Outer Sterling Area. That is, the upturn in exports to the United States began early in 1950 and a sharp upturn in imports did not come until a year later. Unlike the Outer Sterling Area, however, the resulting export surplus in 1950 was not disposed of through multilateral payments. In the first half of 1951, large dollar outpayments were made by Japan—apparently to the Sterling Area—and area imports from the United States abruptly stopped rising. The available data do not indicate whether the outpayments represented a

[18] The item "multilateral receipts" is a residual and thus includes the effect of errors and omissions in all other accounts. For Canada much of the third quarter decline may have consisted of errors and omissions, rather than true multilateral settlements.

real current dollar deficit with the rest of the world, or merely a bookkeeping deficit with the United States due to the transfer of liquid balances elsewhere. In the third quarter of 1951, multilateral settlements again turned favorable.

Other elements in the balance of payments

While the fluctuations in unaided merchandise trade and multilateral settlements have been the main determinants of changes in dollar reserves for most areas, service items frequently make the difference between a steady loss or gain; for short periods direct capital movements can be of dominant importance.

Dollar receipts from U.S. capital movements, services, and donations have been sizable for Western Europe, rising from a quarterly average of under $100 million in 1948 to about $250 million in 1950. In 1951 a reversal in net movements of U.S. capital had, by the third quarter, reduced the combined balance for these three items to approximately zero, both for the United Kingdom and for Continental ERP countries.

The inflow of U.S. private capital into Canada rose irregularly from about $50 million a quarter in 1948 to $80-90 million a quarter in 1950 and 1951, and sufficed roughly to offset the net outflow of funds on service account. There was an exceptional capital inflow of over $500 million from the United States in the third quarter of 1950.

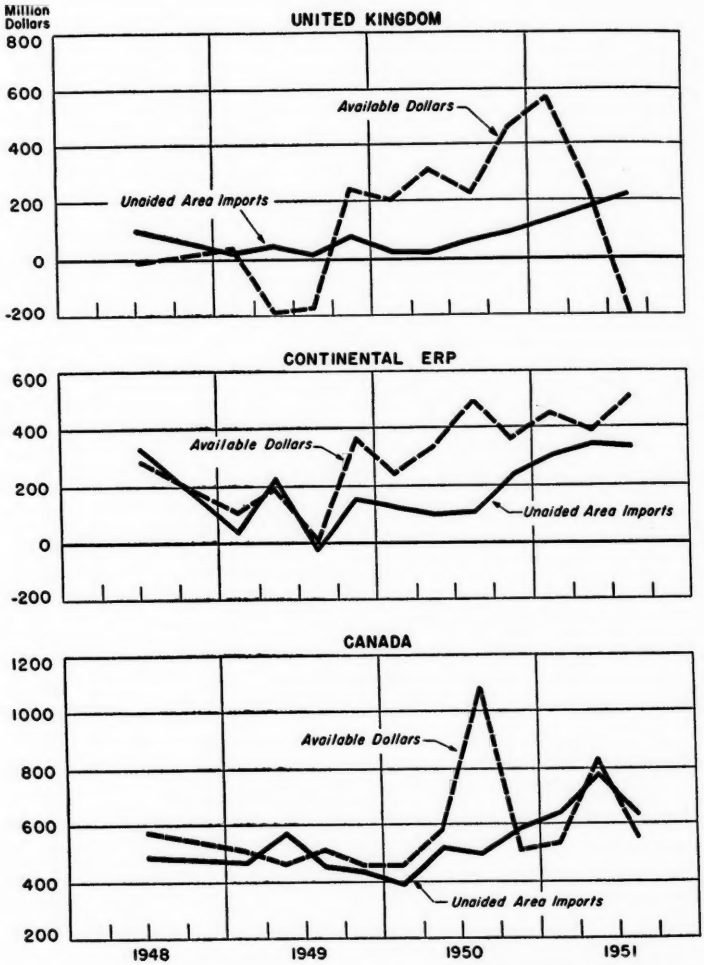
In Latin America, U.S. capital provided net receipts of about $80 million a quarter in 1948 and 1949, but the subsequent movement was smaller and more irregular; it was far outweighed by net payments of $150-200 million per quarter for the servicing of U.S. investments.

Dollar receipts from (net) U.S. capital inflow to the Outer Sterling Area provided a small quarterly balance of $15-30 million, but here again they were more than offset by service payments on U.S. investments. A similar situation has prevailed for "all other" countries in the aggregate.

Unaided imports compared with net dollars from all sources

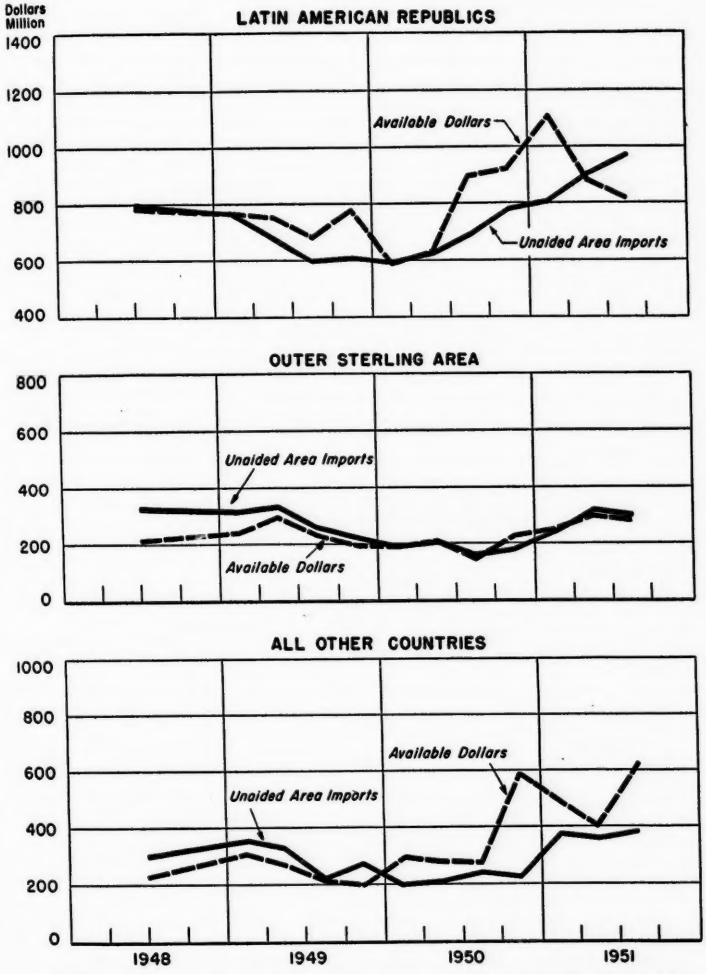
In order to take account of all elements in the balance of payments in conjunction with fluctuations in unaided area imports from the United States, Chart 10 has been arranged to show the excess of the dollar inflow to each major area from all sources of dollars except U.S. aid over the outflow for all uses except merchandise imports from the United States. Viewed broadly, the chart shows that in four of the six major areas the increase in this excess during 1950 and early 1951 was followed by a slower and less than proportionate increase in unaided imports from the United States, so that much of the increase

CHART 10. Value of "Unaided" Imports from the United States, Compared with Currently Available Dollars, by Major Areas, Quarterly Totals, 1948–51 *



* "Unaided" imports exclude imports from the United States financed by U.S. Government aid. Currently available dollars are computed as the difference between all current sources and current uses of U.S. gold and dollar funds except unaided commodity imports from the United States.

CHART 10. Value of "Unaided" Imports from the United States, Compared with Currently Available Dollars, by Major Areas, Quarterly Totals, 1948–51 *



* "Unaided" imports exclude imports from the United States financed by U.S. Government aid. Currently available dollars are computed as the difference between all current sources and current uses of U.S. gold and dollar funds except unaided commodity imports from the United States.

in the dollar supply was added to monetary reserves. The chief exceptions were Canada, where imports were already exceeding the current U.S. dollar supply in the last quarter of 1950, and the Outer Sterling Area, where additions to reserves went into the Sterling Area pool.

During 1951, however, the supply of U.S. dollars leveled off or declined for most major areas and failed to cover the cost of unaided imports from the United States. (On the chart, the excess of unaided imports over available dollars indicates an area loss of gold and U.S. dollar assets to the United States.) Two exceptions to this trend were the Continental ERP area and the group of "all other" countries, where available dollars in the third quarter of 1951 continued near record high levels, well above the amounts needed to pay for unaided imports.

This analysis has indicated that, while the dollar difficulties experienced by many areas during the third quarter of 1951 were attributable in part to a reduction in exports to the United States, they were in some cases much more a reflection of the delayed rise in dollar imports and in other cases the result of balance of payments difficulties with third countries. If a similar payments analysis could be made for more individual countries, it would probably show a wider range of differences of experience, attributable to causes peculiar to each country.

Note: This paper was prepared before balance of payments data for the fourth quarter of 1951 had been published. These data, now available, record a continuation of the major developments of the third quarter, although there is some indication that the next turning point in the U.S. trade balance was being approached.

Effects of a Devaluation on a Trade Balance

Sidney S. Alexander *

THE CONVENTIONAL ANSWER to the question, what is the effect of a devaluation on the trade balance of the devaluing country, runs in terms of the supply and demand conditions in the devaluing country and in the rest of the world. It is presumed that the devaluation initially tends to reduce the foreign prices of the country's exports in proportion to the devaluation. At these reduced prices, foreign demand for the country's exports will be increased, thus tending to bid up the foreign prices of these exports part-way back toward their predevaluation levels. How much the foreign currency proceeds of the country's exports will change then depends upon the elasticity of foreign demand for the country's exports and the elasticity of domestic supply of export goods. Similarly, on the import side, the initial effect of the devaluation is to raise the domestic price of imports, presumably leading to some reduction in the country's demand for imports, which in turn may tend to reduce the world price of the imported goods. The size of these reactions on imports depends upon the elasticity of domestic demand for imports and the elasticity of foreign supply of imports. The effect of the devaluation on the foreign trade balance can accordingly be expressed in a formula which involves principally the four elasticities mentioned above.[1]

In the present paper, it is suggested that a more fruitful line of approach can be based on a concentration on the relationships of real expenditure to real income and on the relationships of both of these to the price levels, rather than on the more traditional supply and demand analysis.

* Mr. Alexander, Acting Chief of the Finance Division, is a graduate of Harvard College and the Harvard Graduate School. He was formerly Assistant Professor of Economics at Harvard College, and during the war was connected with the Office of Strategic Services. He has been consultant to the U.S. Treasury Department, U.S. State Department, Economic Cooperation Administration, and U.S. Department of Defense.

[1] See A. P. Lerner, *The Economics of Control* (New York, 1946), p. 378; Joan Robinson, "The Foreign Exchanges," *Essays in the Theory of Employment* (2d ed., Oxford, 1947), p. 143, fn., reprinted in *Readings in the Theory of International Trade* (H. S. Ellis and L. Metzler, eds., Philadelphia, 1949), p. 93, fn. 10; A. J. Brown, "Trade Balances and Exchange Stability," *Oxford Economic Papers*, No. 6 (1942), pp. 57-76; Lloyd Metzler, "The Theory of International Trade," *A Survey of Contemporary Economics* (H. S. Ellis, ed., Philadelphia, 1948), p. 226.

The Elasticities Approach

The conventional analysis is an extension, to imports and to exports as a whole, of the familiar Marshallian supply and demand analysis of the price and production of a single commodity. While supply and demand curves are very useful tools for analyzing the factors that determine price and output for a single good, their value is much more questionable when applied to imports and exports as a whole. Similarly, the extension of the Marshallian partial equilibrium analysis to the determination of total employment and output has been found to be of limited use. The most important reservation against the use of the Marshallian supply and demand curves in the analysis of the effects of a devaluation arises from the complexity of the relationships which govern supply and demand conditions in international trade. The elasticities for which the conventional formulas are valid must be defined as total elasticities and not as partial elasticities.

Partial elasticities measure the effect of a change of price on the quantity supplied or demanded when all other things remain equal. Total elasticities relevant to a devaluation measure the corresponding relationship when the other things have changed that are likely to change as a result of the devaluation. Accordingly, a total elasticity does not measure the direct effects of price changes on quantity, but the covariation of price and quantity as the whole economic system seeks a new equilibrium. A total elasticity is the ratio of a percentage change in quantity to a percentage change in price. But the percentage change in quantity is the result not only of the price change to which it is related, but also of many other price and income changes which are themselves direct and indirect effects of devaluation. The percentage change in price is not generally equal to the percentage devaluation, but itself depends on the same complicated set of relationships. Therefore the total elasticities appropriate for the analysis of the effects of a devaluation depend on the behavior of the whole economic system, and the statement that the effect of a devaluation depends on the elasticities boils down to the statement that it depends on how the economic system behaves.

The Income-Absorption Approach

In examining the relationships of real expenditure to real income and of both of these to price levels, the analysis of the effects of devaluation should, of course, be applied to both the devaluing country and the rest of the world. It is generally recognized that a country's net foreign trade balance is equal to the difference between the total goods and services produced in that country and the total goods and

services taken off the market domestically. For brevity, the taking of goods and services off the market will be referred to here as absorption. Absorption then equals the sum of consumption plus investment as usually defined (including in investment any change in the holding of inventories). If a devaluation is to affect the foreign balance, it can do so in only two ways: (1) It can lead to a change in the production of goods and services in the country; this change will have associated with it an induced change in the absorption of goods and services so that the foreign balance will be altered by the difference between the change in income and the income-induced change in absorption. (2) The devaluation may change the amount of real absorption associated with any given level of real income.

In order to simplify the discussion, any factors affecting the foreign balance of a country other than those connected with trade in goods and services will be ignored. Also, it will be assumed that there are no restrictions on trade and payments, although that assumption is not necessary for the validity of the subsequent analysis. Furthermore, only the simplest forms of the various relationships involved will be considered. For example, only one price level will be considered, and the change in that level will be denoted by p. The reader who wishes to think of a more complex and realistic model may consider p as denoting a whole set of price changes that might be represented by a vector. Similarly, y will denote the change in the aggregate net production of goods and services, i.e., in national income.[2] Finally, the relationships in the devaluing country will be examined; to complete the picture, a similar analysis, with some of the terms reversed, would have to be applied to the rest of the world.

A starting point is the identity that the foreign balance, B, is equal to the difference between the total production of goods and services, Y,[3] and the total absorption of goods and services, A:

$$B=Y-A.$$

Changes in these quantities may be denoted by the corresponding small letters, so that

$$b=y-a \tag{1}$$

[2] This might be taken by the ambitious reader to mean the whole set of changes in the output of various goods and services each taken separately. Any linear coefficient, such as the propensity to absorb, which appears as a simple constant in this discussion could also be re-interpreted as an appropriate vector or matrix which multiplies the income or price vector. In short, the analysis will proceed in terms of a highly simplified model which could be made much broader by a re-interpretation of the symbols.

[3] It makes no difference for the formal analysis whether Y is taken net or gross, i.e., whether it is national income or gross national product, provided A is correspondingly defined as net or gross. For convenience, Y will subsequently be referred to as national income, or, more briefly, income.

is our fundamental identity. It indicates that the change in the foreign balance equals the difference between the change in output and the change in absorption of goods and services. It shows that the first question to be investigated is how the devaluation will affect the two terms, y and a. The above relationships hold, of course, both in real and in money terms. The present discussion will deal only with real quantities, not with money values.

Account may first be taken of the fact that the absorption of goods and services depends, at least in part, on real income, which itself is equal to the output of goods and services. Absorption may also depend on the price level, or other factors related to the devaluation, so that

$$a=cy-d \tag{2}$$

where c is the propensity to absorb, equal to the propensity to consume plus an analogous effect of income on investment, which may be called the propensity to invest. The term d may be called the direct effect of the devaluation on absorption. It expresses whatever tendency there may be for the devaluation to induce a change in the amount of real absorption at any given level of real income.

Equation (2) therefore states that the change in the absorption of goods and services in real terms as a result of devaluation is made up of two parts. The first, cy, is the change in real consumption plus real investment that is induced by the change in real income that results from the devaluation. The other part, d, is the change in absorption which results other than through the income effect.

A combination of the functional relationship (2) with the fundamental identity (1) yields

$$b=(1-c)y+d. \tag{3}$$

This formulation is useful in that it directs the investigation to three basic questions: How does the devaluation affect income? How does a change in the level of income affect absorption, i.e., how large is c? How does the devaluation directly affect absorption at any given level of income, i.e., how large is d? In order to analyze these questions in precise terms, the entire economic structure of the devaluing country and of the rest of the world would have to be considered. Such an analysis would be far more complicated than is desirable for the presentation of the main ideas of this paper. Consequently, what follows is a summary of these main ideas, rather than a precise formulation of the relationships.

Effect of Devaluation on Income

Idle resources effect

The principal effect of a devaluation on income is associated with the increased exports of the devaluing country and the induced stimulation of domestic demand through the familiar multiplier relationship, provided there are unemployed resources.[4] In addition to the multiplier itself, the limiting factors on the process of inducing enlarged output are (1) the degree to which an increased output of goods and services is forthcoming without an extensive price rise in the devaluing country, and (2) the degree to which the rest of the world can absorb the increase in exports that is associated with the decline in the foreign prices of exports made possible by the devaluation—after allowance for the counteracting upward movement of the domestic prices of export goods, which occurs as the demand for these goods expands. These considerations are familiar in the literature.

It must be emphasized that the net effect of the recovery of income and production on the foreign balance is not the total amount of additional production induced, but merely the difference between that amount and the induced increase in absorption. This difference between the real production or income and the real expenditure on goods and services may be termed real hoarding. The foreign balance is, by the fundamental identity, equal to the aggregate real hoarding of the economy as a whole. The income-induced change in the balance, b, is accordingly equal to the income-induced change in real hoarding, i.e., the change in income, y, multiplied by the propensity to hoard, $1-c$. The existence of the business cycle makes it plausible that c may be greater than unity, that an increase in income may stimulate an even greater increment in the absorption of goods and services into consumption and investment. Many of the current theories of the business cycle do depend on the assumption that c is greater than unity. If c is equal to or greater than unity, the foreign balance will not be improved as a result of the increased output. Under such circumstances, the devaluation might be effective in stimulating recovery but not in improving the foreign balance except possibly through direct effects, which will be considered below.

At any rate, under conditions of unemployment, devaluation may be expected to exert a favorable effect on production and employment. This fact became evident in the devaluations of the thirties, and was recognized even before the promulgation of the Keynesian theory,

[4] Fritz Machlup, *International Trade and International Income Multiplier* (Philadelphia, 1943) and J. E. Meade, *The Balance of Payments* (London, 1951).

though not in so systematic or analytic a framework.[5] The competitive depreciations of the thirties were largely associated with a recognition of the income effects of a devaluation, a recognition that was perhaps dim and intuitive on the part of many of those responsible for the devaluations, but nevertheless clear enough to motivate those devaluations. Of course, to the extent that the additional exports of the devaluing country displace those of its competitors, the levels of production and income in the competitor countries will be adversely affected. Recognition of this fact, as well as direct balance of payments considerations, must lie behind the opposition to competitive devaluation from an international point of view, as reflected in the International Monetary Fund's Articles of Agreement, I (iii).

From the point of view of a devaluing country that has unemployed resources, the effect on income, as well as the favorable effect on the balance of payments if c is less than unity, must constitute the most attractive potentiality of a devaluation. If the country is at full employment, this potentiality does not exist and the effects of a devaluation must depend on the more tenuous and less attractive direct effects on absorption.[6]

Terms of trade effect

Another income effect frequently considered as influencing the foreign balance is that of the terms of trade. It is usually presumed, frequently with justification, that a devaluation will result in a decline of export prices in foreign currency greater than the decline of import prices in foreign currency. This presumption is based on the fact that a country's exports are usually more specialized than its imports, so that the price of exports will be much more subject to the influence of devaluation than will the price of imports. There may be some compensation, though probably only to a minor degree, if imports greatly exceed exports prior to the devaluation. Thus, if before the

[5] See Seymour Harris, *Exchange Depreciation* (Cambridge, Massachusetts, 1936), especially pages 6 and 7.

[6] See J. J. Polak and T. C. Chang, "Effect of Exchange Depreciation on a Country's Export Price Level," *Staff Papers*, Vol. I, pp. 49-70 (February 1950) for statistical evidence that, as far as effectiveness in altering export prices relative to those of competitiors is concerned, the effects of a devaluation tend to be much stronger in depression than in full prosperity or inflation. However, Barend de Vries, in an unpublished paper, found that there was little difference in the competitive price effects of important devaluations as between the extreme depression period 1931-33 and the recovery years 1935-36. Deflation in non-devaluing countries in the earlier period tended somewhat to reduce the competitive advantages gained by the devaluers, while presumably in the later period the rise of domestic prices in the devaluing countries themselves also tended to reduce the competitive price effect of the devaluation.

devaluation the country concerned was importing twice as much as it was exporting, and if as a result of the devaluation the fall in foreign prices of exports is 2 per cent and of imports 1 per cent, the deficit in foreign currency would be unchanged if the physical values of imports and exports were unchanged. It may, however, be assumed that the normal result of a devaluation will be such a deterioration of the terms of trade of the devaluing country as to make the balance of payments deteriorate by the amount t. That is, t is the measure of the reduction of the country's real income associated with the deterioration of the terms of trade.

A fallacious argument, frequently encountered, is that a deterioration of the terms of trade on account of devaluation will improve the foreign balance since it reduces the real income of the country and hence the demand for imports. It is true that the reduced income associated with a deterioration of the terms of trade will reduce the demand for imports as well as for domestic goods. Thus the decline in income, t, resulting from the changed terms of trade will induce a reduction of absorption by the amount ct, which will permit an equivalent improvement in the foreign balance partly through the direct reduction of imports included in ct and partly through the eventual transfer to the production of exports or of import substitutes of the resources formerly used to produce the domestic components of ct. The effects of the deterioration of the terms of trade accordingly will be, after resources are transferred, an improvement of the amount, ct. But the entire deterioration, t, of the national income as a result of the changed terms of trade is initially a reduction in the foreign balance. That is, the change of the terms of trade initially imposes a reduction, t, in the foreign balance and then has the effect of stimulating an improvement, ct, so that the change in the balance associated with the initial terms of trade effect on income, t, is t-ct or $(1\text{-}c)t$. This might have been seen directly from equation (3). If t is negative, as assumed, and if c is less than unity, then a deterioration in the terms of trade also implies a deterioration in the foreign balance. Only if c is greater than unity will the adverse terms of trade effect improve the foreign balance.

The aggregate income effects may then be expressed as $(1\text{-}c)$ multiplied by the change of income. That change of income will have two components. One, presumably positive, is the idle resources effect, i.e., the increased production stimulated by the devaluation. The other, presumably negative, is the effect on income of the change in the terms of trade. The resulting change in income, y, will induce a change in absorption, cy, so that it will, according to equation (1), result in a change of the foreign balance equal to y-cy or $(1\text{-}c)y$.

Direct Effect on Absorption

If there is initially full employment, or if c is almost unity or greater than unity, the principal favorable influence of a devaluation on the foreign balance is through the direct effect on absorption. This direct effect is largely associated with a tendency for a high or rising price level to discourage consumption or investment out of a given level of real income. It is important to recognize that this effect is not connected with any tendency for higher prices to force a reduction of consumption or investment out of a given money income. That would be an effect through real income, since if prices go up relative to money income, real income goes down. Except for the terms of trade effect on income, the real income of the devaluing country should not be expected to decline; at full employment, money income and money prices can be expected to move together. The direct effect on absorption is any influence toward lower real expenditure as money income and money prices rise together as a result of the devaluation.

In order most clearly to illustrate the nature of the forces behind d, the direct effect on absorption, certain assumptions which imply that all other effects are absent can be made. Accordingly, assume that the devaluing country is at full employment so that real income produced cannot be increased as a result of devaluation. Furthermore, assume that the foreign supply of imports and the foreign demand for exports are perfectly elastic, so that the foreign currency prices of imports and exports, and hence the terms of trade, will be unchanged. Thus there will be no income effects, either through increased production or through a change in the terms of trade.

The higher import and export prices in domestic currency resulting from devaluation will initially induce an attempt by individuals and enterprises in the devaluing country to shift their demand from imports to the home market and to export more. The resulting increased demand for the country's production would tend to raise domestic prices and money incomes to the point where the increased demands are choked off by the combined operation of the direct absorption effect and the narrowing price differential between the foreign and the domestic markets. If there were no direct absorption effect, domestic prices would continue to rise until there was no longer any tendency to substitute domestic goods for imports, or to try to export more, and there would be no change of the foreign balance as a result of the devaluation.

The relationship involved may be illustrated by a crude example. Suppose, under the assumed conditions of full employment and perfectly elastic foreign supply and demand, that there is a 10 per cent

devaluation and an elasticity of direct absorption of 0.1. This would mean that a 1 per cent increase in the general price level would induce a 0.1 per cent reduction of absorption at a given level of real income. It may also be assumed that the substitutability of domestic goods for imports in consumption, and of resources as between the production of domestic goods and exports, is such as to link the domestic price level to the prices of foreign goods by a factor of 0.5, so that the 10 per cent increase of import and export prices in domestic currency leads to a 5 per cent rise of the general domestic price level. Then the devaluation would lead to a reduction of absorption by one-half of one per cent of total absorption. If imports furnish about 20 per cent of total absorption, the improvement of the foreign balance would amount to $2\frac{1}{2}$ per cent of imports. In terms of the conventional analysis, the inelasticity of domestic supply of exports and of import substitutes reduces the effect of the devaluation in spite of the perfect elasticities of foreign supply and demand. At full employment, the elasticity of domestic supply for import substitutes and exports taken together must be just another way of expressing the direct absorption effect.

It is frequently taken for granted that, even when the devaluing country is at full employment, a devaluation will lead to increased exports and reduced imports. If it does so, then clearly domestic absorption will have been reduced. The question to be explored is why, with a given real income, when money incomes and prices rise in the same proportion there should be a reduction of real consumption or investment.

The direct absorption effect can be divided into a cash balance effect, an income redistribution effect, a money illusion effect, and possibly into other, miscellaneous direct absorption effects.

Cash balance effect

The cash balance effect is perhaps the best known of the direct absorption effects. If the money supply is inflexible, and if money-holders desire to maintain cash holdings of a certain real value, they must, as prices rise, accumulate more cash. This will require a reduction in their real expenditures relative to their real incomes. It might be possible for any individual to increase his cash holdings by selling other assets, but this is clearly impossible for the country as a whole as long as the banking system or government does not create more money, except to the extent that goods or services may be sold abroad and the domestic money supply thereby increased. Capital movements are ruled out here; if they were allowed they might change or eliminate the cash balance effect.

One result of the attempt to maintain real cash balances by increasing their money amounts while prices rise may be to drive down the prices of assets, i.e., to increase the rate of interest. This in turn might have some effect on real consumption or investment relative to real income: thus the cash balance effect may operate *directly* on the income-expenditure relationship through the foregoing of expenditure in order to build up cash, or *indirectly* through the rate of interest as the result of an attempt to shift from other assets into cash—an attempt that can be discouraged only by a rise in the rate of interest. Clearly, one of the most important components of the direct absorption effect would be the cash balance effect. A hypothetical example applied to the United Kingdom may illustrate the possible magnitude of that effect. Suppose that in the United Kingdom the total money supply is £5 billion, and that a devaluation raises domestic prices by 5 per cent and thus cuts the real value of cash balances by about 5 per cent or £250 million. Suppose that cash balances were previously in adjustment with the level of real incomes, and that for each £10 that they are out of adjustment there is a cut of expenditure of £1 to rebuild them. There would then be a cash balance effect (ignoring any repercussions through the rate of interest and assuming no change in real income) of about £25 million per year on absorption, and therefore on the foreign balance.

It is possible that the reduction of absorption on account of the cash balance effect, or of the other direct absorption effects, might be directed toward certain domestic goods and services, from whose production it is not easy to transfer resources to the production of exports or import substitutes; therefore, some unemployment might result. The results of this unemployment might then be traced throughout the economy. If c is less than one, the net result of this adverse effect on income produced would be a deterioration of the foreign balance which would tend to counteract the improvement from the direct absorption effects.

It is pointed out below that, before any of the analysis of this paper is applied to a practical case, it is necessary to abandon the oversimplification here adopted and to recognize that y, a, p, and c are sets of quantities, i.e., that they must be regarded as vectors or matrices. The economic content of this fact is that it will make a difference, in view of immobility of resources and other imperfections, in what sector of the economy a particular reduction of absorption, or change of income, takes place.

Redistribution of income

The redistribution of income effect is also well recognized. There may be a long lag of wages behind prices, and profits might therefore gain at the expense of wages as a result of the devaluation. Rising prices will transfer income from fixed money income groups to the rest of the economy. Taxes, at least in advanced countries, can be expected to take a larger share of a given real income when the price level is higher. To the extent that income is shifted from those with a high marginal propensity to absorb to those with a low propensity, the foreign balance will be improved by the devaluation. It must be remembered, however, that absorption includes both consumption and investment, so that it is by no means certain that a shift to profits will lead to reduced absorption. Although the proportion of any increment of income consumed by the profit recipient may be smaller than the proportion consumed by the wage earner, the higher profits may stimulate investment demand. The government can, in advanced countries, usually be expected to have a low marginal propensity to absorb, so that the tax shift might be a significant factor influencing the relationship of absorption to income, and so affecting the foreign balance.

Money illusion

The money illusion may contribute a favorable effect to a devaluation if it actually leads people to pay more attention to money prices than to money incomes. If at higher prices people choose to buy and consume less even though their money income has increased in proportion, over and above what can be attributed to the cash balance effect, the result on the balance of payments will be favorable. But rising money incomes and rising prices may actually operate in the opposite manner; for example, annual savings may be calculated in money terms and may fail to rise in proportion to money incomes and prices.

Miscellaneous direct absorption effects

There may be other direct absorption effects, some working toward a favorable, others toward an unfavorable, change in the foreign balance. Expectations of price rises may be inspired, leading to increased absorption with adverse effects on the foreign balance, at least in the short run. If investment goods come largely from abroad, investment may be much less attractive after the devaluation than before because of the rise in the domestic price of investment goods, provided no close

substitutes are produced domestically. More generally, the goods imported may be such that when the domestic prices rise, the domestic purchasers cut their expenditures on those goods but save or hoard the difference, rather than shift the expenditures to other goods. The importance of such a tendency in any actual case is open to doubt, but it is a theoretical possibility.

Impermanence and non-proportionality of effects

Many of the direct absorption effects may be transitory. Thus the money supply may respond to the increased demand for cash balances, so that the cash balance effect may gradually disappear or be counterbalanced by additional absorption financed by credit creation. Similarly, some of the income-distribution effects are associated with lags, but the lagged income may eventually catch up, e.g., wages may eventually rise to restore the predevaluation wage-profit relationship. Other effects depend on dynamic movements, on rising prices rather than on high prices. As the rise in prices comes to a halt, these effects will tend to disappear.

Furthermore, some of the effects may be non-proportional. A small devaluation may take advantage of the money illusion, or of wage inertia; a large devaluation may shatter the money illusion, or impart a dynamic momentum to the wage inertia, or lead to modifications of tax rates, etc.

In general, then, many of the effects of a devaluation on the balance of payments through the direct absorption effects may be expected to be transitory and non-proportional. It does not necessarily follow that, in the absence of unemployment, a devaluation cannot have a strong influence on the balance of payments; that depends on the strength of the various effects discussed above. The author's impression, however, is that in many cases, in which the question of devaluation is likely to become a live issue under conditions of full employment, the favorable direct absorption effects are likely to be weak. It would seem to be much more effective to operate on absorption directly through monetary and credit policy—limitation of government expenditures, of private investment and, possibly, of private consumption—provided these can be brought to bear on the foreign balance without adversely affecting income and employment. They must, of course, "adversely" affect absorption, since, at full employment, it is possible to improve the foreign balance only through reducing absorption.[7]

This practical conclusion is not, however, the main conclusion of this paper. The main conclusion is that the most fruitful approach to

[7] Theoretically it is also possible through improving the terms of trade as well.

the general problem of obtaining a satisfactory foreign balance, and in particular of appraising the effects on the foreign balance of a devaluation, is via the analysis of the income-absorption relationship. It is theoretically possible to obtain the same answers in terms of supply and demand elasticities, but one is more likely to be misled. It seems more in accord with the realities of the situation to recognize that, if the foreign balance is to be improved, the community as a whole must reduce its absorption of goods and services relative to its income. The inquiry can then best follow the line of asking who is to cut his absorption relative to his income, or what is to be the shift of income from those who, on the margin, absorb more to those who absorb less. Supply and demand conditions, in the sense of partial elasticities, may be useful tools in this analysis. But the total elasticities, for which the conventional formulas alone are valid, are not only poor tools; they may mislead, or at least obscure the analysis.

Devaluation Compared with Other Methods

If an improvement of the foreign balance is required, it may possibly be achieved either through a devaluation or through some other method of reducing absorption relative to production. The general alternative to devaluation is sometimes referred to as deflation, but that term has a narrower connotation than it is desirable to give to the alternatives to devaluation. These alternatives, which may for brevity be referred to as disabsorption, may be characterized as the discouragement of absorption relative to income by means other than devaluation. Disabsorption may be attained through monetary policy, as for example, by discouraging investment and consumption through tightening credit. It may be achieved by direct controls, such as investment licensing or rationing of consumers goods. It may be applied over the whole economy, as in the form of a sales tax or income tax, or in selected spheres, as in the form of investment licensing or import controls. The means to disabsorption are many and varied, but they may all be characterized as domestic measures calculated to change the relationship of absorption to income, and hence to affect the foreign balance.

An analysis of the relative advantages, from the point of view of a single country, of devaluation and trade restrictions has been presented elsewhere.[8] That analysis is appropriate only to conditions of full employment. It can be extended to any other domestic measure for achieving a given balance of trade at full employment. Measures tending to reduce imports are of benefit to the country concerned as

[8] See Sidney S. Alexander, "Devaluation Versus Import Restriction as an Instrument for Improving Foreign Trade Balance," *Staff Papers*, Vol. I, pp. 379-96 (April 1951).

long as the relative domestic welfare value of import goods relative to export goods does not exceed the marginal terms of trade, i.e., the rate at which export goods can be exchanged for import goods at the margin on foreign markets, account being taken of any tendency for the prices of exports to fall relative to imports as more exports are offered and imports demanded.

When consideration is given to measures to improve the foreign balance under conditions of widespread unemployment, the above criterion must be so modified as to be abandoned for all practical purposes. That criterion is based on the proposition that, if the marginal rate of exchange of export goods for import goods in the foreign market is less favorable than their domestic welfare values, it would pay to cut back on imports and thus gain a greater welfare value in the export goods saved for the domestic economy. But if the resources used to make those export goods would, under those conditions, become unemployed, then there would be no gain from the restriction but rather a considerable loss. It is generally recognized that under conditions of widespread unemployment a domestic expansion policy is appropriate. Any adverse effects on the foreign balance can, except in extreme cases of inelasticity of foreign demand and supply, be appropriately handled by devaluation rather than by disabsorption under such circumstances. Disabsorption becomes an attractive policy only as full employment is approached.

If disabsorption of a general nature, say through a broad deflationary policy, should lead from full employment to the idleness of certain resources which cannot be expected to be transferred to the production of exports or import substitutes, it is to that extent undesirable. It is well recognized that when deflation leads to unemployment it is an undesirable measure for improving the foreign balance. Other means, such as import restriction or devaluation, would be preferable. In actual practice, therefore, the choice between devaluation and disabsorption will be affected not only by the considerations of the terms of trade on which the above criterion is based, but more immediately by considerations of other effects of any particular measure on the domestic economy. Considerations of the desirability of the resulting changes in the distribution of income as among individuals are ignored here, although in practice these considerations may be important and sometimes governing. One of the most important effects of any measure to improve the foreign balance is the influence it has on production as well as on absorption.

In the analysis both of devaluation and of disabsorption, the issues turn largely on the price rigidities and general inflexibilities of the economy. A satisfactory analysis of the problems depends on the

identification and the appraisal of these inflexibilities. This is strictly analogous to the familiar question of whether, for stimulating employment, a reduction of wages can be as effective as an increase in aggregate monetary demand. That question hinges on whether the supply of labor is related to real wages or to money wages; that is, whether the effect of a given change in real wages that comes from a reduction of the general price level differs from that which comes from an increase in money wages.

Similarly, in evaluating various measures likely to affect the balance of payments, an identification of the rigidities and inflexibilities is vital to the conclusions. Thus, in the foregoing theory no attempt was made to distinguish between those components of a reduction in total absorption, a, which actually provide additional exports or import substitutes and those which do not. This constituted an implicit assumption that the resources freed by a reduction in absorption anywhere in the economy could be applied anywhere else, and in particular to the production of exports or import substitutes. It is, accordingly, necessary in any actual case to deal with a far more complicated set of components of the quantities, such as income and absorption, than have been used in this discussion. It must first be ascertained whether the contemplated measure will actually bring about the desired disabsorption and whether there may not merely be a shift of absorption to other objects, e.g., to clothing if food is rationed. It is further necessary to consider whether the resources to be set free by any contemplated disabsorption will in fact find their way into the production of exports or import substitutes. Thus what is required is a highly detailed analysis of the locus of impact of the contemplated measure and the nature of the adjustments in absorption and in production that will consequently be made.

Even where some form of disabsorption—for example, restriction of investments through licensing—can be achieved in such a manner that the investment goods can then be exported, the choice between that measure and devaluation must depend on whether the economy can spare the investment goods better than the different set of goods that would be foregone as the result of a devaluation or a restriction on imports. At this level of generality, it is possible to distinguish between two important lines of inquiry that must be followed in evaluating the relative merits of various possible measures to improve the balance of payments. The first concerns the effects on income, the second the relative welfare value of the absorption that must be foregone. These two considerations must be appraised jointly. Thus, for example, an import restriction may not reduce income at all but merely change the level of absorption in the country concerned. A devalua-

tion at full employment that achieved an equal improvement in the foreign balance might have a tendency to reduce the real income by the terms of trade effect. Imports may, however, have a domestic welfare value sufficiently above that of exports so that the reduction in real income associated with a more desirable composition of absorption is preferable to the higher real income but less desirable composition of absorption associated with import restrictions. This paradox contains an implicit criticism of the measure of real income used here; it implies that a lower real income can have a higher welfare value. The paradox could be eliminated by an improved method of measuring real income, but the fundamental principle remains. In evaluating alternative measures for improving the balance of payments, the final criterion must be the welfare value of the goods and services absorbed at the given balance of payments to be achieved. This will depend not only on the level of employment and production but also on the composition of that production, and on the level and composition of trade.

Employment, Production, and the National Security Program in the United States

Ta-Chung Liu *

THE NATIONAL SECURITY program of the United States, as outlined in the July 1951 report of the President's Council of Economic Advisers, envisaged that total defense expenditures would reach, at mid-1952, an annual rate of about 19 per cent of gross national product, which was expected to be at the level of $345 billion (in terms of prices in the first half of 1951). The probable level of civilian employment in the United States, when the current program reaches its planned "peak," is obviously of direct importance to the stabilization policies not only of the United States but also of other nations. An estimate of this level is provided by an analysis of the relationships between output and employment in the United States during the past two decades—for the economy as a whole and, as far as possible, for important industrial divisions.[1]

With revisions in the current defense program, the "peak" estimates for employment and production required to fulfill a revised program will differ from those calculated for the program as outlined in 1951. The statistical relationships obtained in this paper would not be invalidated, however, and estimates corresponding to a revised program could easily be derived from them.

The period covered by the analysis presented here starts with the year 1929 since many of the statistical series used are not available earlier. The official gross national product statistics compiled by the Department of Commerce provide the most notable example of this restriction. While GNP estimates for earlier years have been made by the Department of Commerce, they have never been officially released

* Mr. Liu, economist in the Statistics Division, is a graduate of National Chiao-Tung University, and received graduate training at Cornell University. He was formerly Assistant Commercial Counselor, Chinese Embassy, Washington, D. C., and Professor of Economics, National Tsing-Hua University, Peiping.

[1] The estimated levels of production and employment at midyear 1952 will be referred to briefly, in this paper, as the "peak" estimates. The use of this phrase does not, however, imply that peak levels will actually be reached at that time.

and, presumably, they are not so comprehensive and accurate as the later data.[2]

During the short span of the past twenty years or so, there have been both a severe depression and a world war, followed by a rapid demobilization and an unprecedented prosperity in the United States. Since the drastic changes during this short period have been numerous, satisfactory statistical relationships that are suitable either for explaining the past or for forecasting the future cannot easily be calculated from the recorded data. Therefore, the conclusions reached in this paper are necessarily experimental. Many of the relationships obtained are clear-cut, however, despite the small number of observations covered; they also correspond closely to what would be expected on logical grounds.

"Peak" Employment Estimates

The "peak" estimates of employment in mid-1952 are summarized in Table 1. The assumptions made in obtaining these estimates, and the classification of employment sectors, are explained in detail in subsequent sections of this paper. As indicated by Table 1, the probable level of total employment in mid-1952 ranges between 62.23 million and 62.73 million persons (seasonally adjusted).

From estimates of production and employment, the ratios of the probable percentage changes in employment to the corresponding percentage changes in production from the first half of 1951 to mid-1952 can be derived for both nondurable and durable manufacturing industries and for the economy as a whole. These ratios may be said to measure the "finite elasticities" of employment with respect to production (Table 2). If the finite elasticity is x, an expansion of y per cent in gross national product (GNP) will require an increase in total civilian employment of xy per cent.

The estimates of finite elasticities for the economy as a whole range from 0.33 to 0.46. The reasons which make possible increases in output much greater than the corresponding increases in employment are

[2] Most of the statistical data used are found in *The Midyear Economic Report of the President (Together with a Report to the President by the Council of Economic Advisers)* (Washington, D. C., July 1951), especially Tables B-2, B-3, B-11, B-12, B-13, B-16, and B-17 in Appendix B. This publication will be cited below as The President's Economic Report.

The total national security expenditure corresponding to the 19 per cent of GNP cited in the text is given as $64 billion in the President's Economic Report, Table 2, p. 69. The GNP figure obtained by dividing $64 billion by 19 per cent is somewhat smaller than the annual rate of $345 billion cited elsewhere in the Report (p. 60) as the expected level of GNP at the end of the second quarter of 1952. In deriving the "peak" estimates presented in this paper, the figure of $345 billion has been used. The figures obtained represent estimates for the end of the second quarter of 1952 in terms of annual rates.

manifold; they include (1) shifts of manpower between the different fields of activity so as to result in a higher level of gross product for a given level of total employment, (2) a probable lengthening of the working week, and (3) prospective improvements in productivity in many fields.

The employment-GNP elasticity estimates given in the paper are considerably lower than an estimate that might be obtained from an analysis which does not give sufficient attention to shifts of manpower. (See section below, "Methods of Estimation.") The difference would indicate that, according to our estimates, the increase in employment that is required for the expansion of GNP from the 1951 (first half) level of $323.8 billion to a higher given level (see Table 3) is smaller than the increase that might be indicated by other elasticity estimates. While the absolute magnitude of the difference might not be large, the difference becomes greater as GNP increases. It is also important that any required increase in employment from the present level is a marginal increase from practically full employment. Hence any small increase in this marginal increment means a proportionately greater increase in the strain placed on the economy.

In working out the estimates used in this paper, full consideration has been given to the fact that there are certain discernible "normal" relationships between GNP and its distribution among various industrial divisions, and that these relationships change when there is a shift from peacetime to wartime output. Evidence of these changing relationships is afforded by the experience during World War II, and similar changes can be expected during the present shift toward rearmament production. But since the manpower control measures that may be introduced in the next year or so are likely to be less severe than those during World War II, the shifts in manpower resulting from the rearmament program may be less pronounced. Therefore, the derived employment-GNP elasticity may be a little too low. However, it is in any case an indication of the level of GNP that is attainable at any level of employment.

The results described in this paper have been obtained from a small number of observations. The risks involved in drawing conclusions from such limited information are well known. In this particular case, however, the information that is available as a basis for the analysis is unavoidably limited, and a choice has to be made between a pure guess and a combination of bold "intuitive" judgment and quantitative extrapolation from recent experience. Most of the conclusions presented here are the result of an attempt to explore the second of these alternatives. They are not therefore the result of statistical inference in the ordinary sense of that term.

TABLE 1. SUMMARY OF U.S. CIVILIAN EMPLOYMENT DATA—REPORTED AND ESTIMATED—BY INDUSTRIAL DIVISIONS, 1950-52 [1]

(In millions)

Industrial Division	1950 Reported (1)	1950 Estimate (2)	1950 Alternative Estimate (3)	1951 (first half, seasonally adjusted) Reported (4)	1951 Estimate (5)	1951 Alternative Estimate (6)	Mid-1952 ("peak" of defense program as outlined in 1951) Estimate (7)	Alternatives First (8)	Second (9)	Third (10)
"Classified" [2] Nonagricultural Employment										
Manufacturing Industries										
Nondurable manufacturing ..	6.88	6.89		7.04	7.03		7.18			
Durable manufacturing	8.01	7.94	8.55	8.97	8.87	9.37	10.14	10.47		
Mining	0.90			0.92			0.92			
Industrial production as a whole.			16.66			17.78			18.99	
Trade and Service.....	14.29	14.34		14.52	14.50		14.64			
Government	5.91	6.05		6.26	6.43		6.78			
Transportation and Public Utilities	4.01	4.04		4.14	4.13		4.20			
Contract Construction	2.32			2.55			2.55			
Finance	1.81	1.78		1.86	1.86		1.87			
Total	44.12		44.07 [3]	46.25		46.62 [3]	48.28	48.61 [4]	49.03 [5]	48.93 [3]
"Unclassified" [2] Nonagricultural Employment	8.33			7.60			6.90	6.79	6.65	6.68
Total Nonagricultural Employment.	52.45			53.85			55.18	55.40	55.68	55.61
Agricultural Employment	7.51			7.05			7.05			
Total Civilian Employment.	59.96			60.90			62.23	62.45 [6]	62.73 [6]	62.66 [6]

[1] The reported data are those of the Department of Commerce and the Department of Labor. The estimated data are those obtained by the author in accordance with the methods described briefly in the notes following this table; see text for a more detailed description of these methods and also for details concerning the "alternative" estimates. Data are monthly averages, by years. Totals do not always equal the sum of the items because of rounding.

[2] For a description of "classified" and "unclassified" employment, see text.

[3] This estimate is not based on the estimates for the various industrial divisions. See text, section "Alternative Estimate of Classified Civilian Nonagricultural Employment as a Whole."

[4] Total of estimates for nondurable manufacturing, mining, trade and service, government, transportation and public utility, contract construction, and finance given in column 7, plus alternative estimate for durable manufacturing in column 8.

[5] Total of estimates for trade and service, government, transportation and public utility, contract construction, and finance given in column 7 plus alternative estimate for industrial production as a whole given in column 9.

[6] Total of estimates for nondurable manufacturing, mining, trade and service, government, transportation and public utility, contract construction, and finance given in column 7, plus alternative estimate for durable manufacturing in column 8.

RELATIONSHIPS ON THE BASIS OF WHICH THE ESTIMATES IN TABLE 1 ARE MADE

GNP. The 1949-51 (first half) relationship was therefore

[illegible] Total of estimates for trade and service, government, transportation and public utility, contract construction, and finance given in column 7 plus alternative estimate for industrial production as a whole given in column 9.

RELATIONSHIPS ON THE BASIS OF WHICH THE ESTIMATES IN TABLE 1 ARE MADE

Nondurable manufacturing

Estimates of nondurable manufacturing production were obtained on the basis of the statistical relationship between nondurable production and GNP in 1941-43 and 1946-49. Employment estimates were then obtained from the relationship between employment and nondurable production during the period 1949-51, first half. In spite of the short period covered, this relationship may be regarded as significant, because it is similar to the relationship between employment and production during World War II.

Durable manufacturing

Estimates of durable manufacturing production were obtained from the 1939-49 relationship between durable production and three independent variables (GNP, ratio of defense expenditure to GNP, and machine tools shipments). Employment estimates were then obtained on the basis of the relationship between employment and production in 1939-45 and 1949.

An alternative estimate was obtained from the direct relationship in 1939-49 between employment and two independent variables (GNP and the ratio of defense expenditure to GNP).

Mining

The relationship between employment and production in mining is rather haphazard, and it is assumed that "peak" employment will be the same as employment in the first half of 1951.

Alternative estimates for industrial employment as a whole

Estimates for employment in industrial production as a whole were also obtained from the direct relationship in 1939-49 between industrial employment and two independent variables (GNP and the ratio of defense expenditure to GNP).

Trade and service

A good relationship between employment in this field and GNP was obtained for the years 1929-40 and 1947-49. The 1949-51 (first half) points, however, reveal a tendency similar to that during World War II (1941-45), i.e., very little change in employment in this field in spite of expansion in GNP. The 1949-51 (first half) relationship was therefore used in estimating the "peak" employment in this field.

Government

Government employment is estimated from the 1932-49 relationship between employment in this field and GNP.

Transportation and public utilities

These data were estimated from the relationship between employment in this field and GNP during the period 1949-51 (first half).

Contract construction

The "peak" estimate is assumed to be the same as the 1951 (first half) figure, since expansion in construction of defense plants is likely to be balanced by restriction of civilian construction.

Finance

"Peak" employment is assumed to be the same as at the end of the first half of 1951.

Alternative estimates for total "classified" nonagricultural employment as a whole

These estimates were obtained from a simple regression relation between total "classified" nonagricultural employment and GNP in the period 1929-49. They are not based on estimates for the various industrial divisions.

Total "unclassified" nonagricultural employment

The postwar relationship between employment in this group and total "classified" nonagricultural employment has tended to return to the prewar (1933-40) relationship. In view of the severe decline in this relationship during the earlier years (1940-43) of World War II, however, the "peak" estimate was obtained by extending the 1950-51 (first half) declining tendency.

Agricultural employment

On the assumption that the effects of any increase in production on employment would be offset by further increases in efficiency, the "peak" employment in this field is estimated as being the same as in 1951 (first half).

TABLE 2. MEASUREMENT OF "FINITE" ELASTICITIES OF CIVILIAN EMPLOYMENT WITH RESPECT TO PRODUCTION

Industrial Division	Probable percentage changes, first half of 1951 to mid-1952		"Finite elasticity" of employment with respect to production
	Employment [1] (1)	Production [2] (2)	Col. (1)÷Col. (2)
Nondurable manufacturing ...	+ 1.99	+ 6.53	0.30
Durable manufacturing	+13.04	+18.25	0.71
Total agricultural and nonagricultural	+2.18 to +3 [3]	+ 6.55	0.33 to 0.46 [3]

[1] Based on data in Table 1.

[2] Data for nondurable and durable manufacturing industries are based on indices of Board of Governors of Federal Reserve System; those for total agricultural and nonagricultural, i.e., the total economy, are based on GNP figures given in *The Midyear Economic Report of the President (Together with a Report to the President by the Council of Economic Advisers)* (Washington, D. C., July 1951).

[3] The low and high figures relate to the 1952 figures given in the two columns "estimate" and "second alternative estimate" in Table 1.

TABLE 3. ESTIMATES OF EMPLOYMENT (SEASONALLY ADJUSTED) REQUIRED FOR SEVERAL LEVELS OF GROSS NATIONAL PRODUCT [1]

Period	Gross National Product (seasonally adjusted annual rate in billions of 1951, first half, dollars)	Civilian Employment [2] (seasonally adjusted, calculated on elasticity estimates of 0.33 to 0.46) (million persons)
First half of 1951.....	323.8 [3]	60.90 [4]
First half of 1952.....	341.5 [5]	62.0–62.43
Midyear 1952	345.0 [5]	62.23–62.73
Hypothetical	355.0	62.84–63.60

[1] All the comparisons are in terms of seasonally adjusted employment figures. Though this is desirable, as the GNP figures are all seasonally adjusted annual rates, the differences will be proportionally the same whether adjusted or unadjusted employment figures are used.

[2] Monthly averages, by years.

[3] Actual figure as reported by the Department of Commerce.

[4] Actual figure of the Department of Commerce, 60.19 million, seasonally adjusted.

[5] Estimate of President's Council of Economic Advisers.

Industrial Distribution of Civilian Labor Force

As a step preliminary to the construction of "peak" estimates, the changes during the last two decades in the industrial distribution of the total U.S. civilian labor force were first summarized, and an over-all picture was thus obtained of the utilization of manpower in the United States.

With the increase in population in the United States, the total labor force expanded during the past two decades by about 30 per cent, from 49.4 million persons in 1929 to about 64.7 million at the end of 1950.

After military personnel are excluded from these figures, the increase is about 28 per cent—from 49.2 million in 1929 to 62.8 million in the first half of 1951 (seasonally adjusted).

The past two decades or so can be meaningfully divided into four periods: (1) the prewar period 1929-40, (2) the wartime period 1941-45, (3) the postwar period 1946-50, and (4) the first half of 1951, when the effects of the current defense program on the economy began to reveal themselves. A comparison of the changes in the industrial distribution of the total civilian labor force during these four periods

TABLE 4. CIVILIAN LABOR FORCE AND PERCENTAGE DISTRIBUTION BY KIND OF EMPLOYMENT [1]

Group	Prewar (1929-40)	Wartime (1941-45)	Postwar (1946-50)	1951 (first half [2])
	Million Persons			
Total civilian labor force [3]	52.5	55.27	60.87	62.80
	Percentage of Total Civilian Labor Force [4]			
"Classified" civilian nonagricultural employment	53.4	72.2	71.0	73.6
"Unclassified" civilian nonagricultural employment	10.9	7.6	11.5	12.1
Agricultural employment	18.3	16.3	13.2	11.2
Unemployment	16.7	3.9	4.3	3.1
Total	100.0	100.0	100.0	100.0

[1] Based on data in The President's Economic Report (see Table 2, fn. 2), pp. 235-36.
[2] Seasonally adjusted data obtained by taking moving averages. The data, after rounding, checked with data supplied by the Bureau of the Census.
[3] Annual averages of monthly data.
[4] Details do not necessarily add to 100 per cent because of rounding.

provides a logical starting point for a study of the output-employment relationships during these twenty years.

The average civilian labor force during the four periods may be divided into four groups (Table 4): (1) "classified" civilian nonagricultural employment, (2) "unclassified" civilian nonagricultural employment, (3) agricultural employment, and (4) unemployment. The group, "classified" civilian nonagricultural employment, corresponds to the coverage of the Department of Labor's monthly reports on full and part-time *wage and salary workers* in nonagricultural establishments who worked or received pay during the pay period ending nearest the fifteenth of the month. It is described as "classified" in this study, because the data are available for further subdivision into important industrial subgroups (Table 5).

The second group, "unclassified" civilian nonagricultural employment, is covered by reports of both the Department of Commerce and the Department of Labor. In addition to the Department of Labor's reports based on the survey for the pay period ending nearest the fifteenth of the month, the Department of Commerce compiles reports on the labor force, based on a survey made during the week including the eighth of the month, which also give estimates for nonagricultural employment.[3] This includes not only the "classified" salary and wage

TABLE 5. "CLASSIFIED" CIVILIAN NONAGRICULTURAL EMPLOYMENT AND PERCENTAGE DISTRIBUTION BY INDUSTRY GROUPS [1]

Group	Prewar (1929-40)	Wartime (1941-45)	Postwar (1946-50)	1951 (first half [2])
	Million Persons			
"Classified" civilian nonagricultural employment [3]	28.1	39.9	43.2	46.3
	Percentage of Total "Classified" Employment [4]			
Nondurable manufacturing	17.4 [5]	15.6	15.8	15.2
Durable manufacturing	16.1 [5]	23.3	18.5	19.4
Mining	3.2	2.3	2.1	2.0
Trade and service	32.1	28.6	32.4	31.4
Government	12.6	14.3	13.1	13.5
Transportation and public utilities	10.9	9.0	9.4	9.0
Contract construction	4.0	3.9	4.8	5.5
Finance	4.8	3.6	3.9	4.0
Total	100.0	100.0	100.0	100.0

[1] Based on data in The President's Economic Report (see Table 2, fn. 2), pp. 235-36, and the *Federal Reserve Bulletin*, August 1951, p. 1006.
[2] Seasonally adjusted data.
[3] Annual averages of monthly data.
[4] Details do not necessarily add to 100 per cent because of rounding.
[5] Averages of 1939 and 1940 figures only. Earlier data are not available for durable and nondurable industries separately. Average for manufacturing industries as a whole is 32.4 per cent for 1929-40.

workers reported by the Department of Labor, but also the following four groups: (1) proprietors, (2) self-employed persons, (3) those who had jobs but were not at work for such reasons as vacation, illness, bad weather, temporary lay-off, or industrial disputes, and (4) domestic servants. Differences between the Commerce and Labor nonagricultural employment figures presumably represent the sum of these four groups, which is described in Table 4 as "unclassified" civilian nonagricultural employment.[4] The agricultural employment and the

[3] The President's Economic Report, Table B-11, p. 235.
[4] These differences give only an approximate measure of "unclassified" civilian nonagricultural employment, since the concepts and methods used in the two

unemployment figures given in the table are also based on Department of Commerce estimates.[5]

As shown in Table 4, the percentage of "classified" nonagricultural employment in the total labor force increased greatly, at the expense of the other groups, from the prewar period to the wartime period. Undoubtedly, defense activities made the heaviest demands on this "classified" group. The reduction in employment for this group during the postwar period, however, was very slight, and the further increase in the first half of 1951 reflects the effects of the current defense program.

The percentage of the total civilian labor force in the "unclassified" nonagricultural group fell greatly from the prewar period to the wartime period, but after the war it more than regained its losses. There was a further gain in the first half of 1951, compared with the period 1946-50.[6]

The most striking feature of Table 4 is the consistent decline of agricultural employment, as a percentage of the civilian labor force. This was due mainly to the tremendous strides made in the improvement in agricultural technique and equipment and to the diminishing number of less-than-fully-occupied farm workers.

Unemployment, of course, declined greatly from the prewar period to the wartime period. The unemployment percentage was kept low by the unprecedented prosperity after the war; and the expansion of defense activities brought a further decline in the first half of 1951.

"Classified" civilian nonagricultural salary and wage workers represent the most important sector of the labor force. Among the industrial divisions of this group (Table 5), employment in each division, as a percentage of the group total, declined from the prewar period to the wartime period, except the percentages for the durable manufacturing industries and for government which gained greatly. This is what would be expected, since the demands from the mobilization process and from the expansion in the production of heavy military equipment during the war were greatest in these two fields. This tendency was reversed during the change from war to demobilization and reconstruction, except in the mining industries where a small percentage decline continued. Increases in the percentages for the durable manufacturing industries and government are again observed when the first half of 1951 is compared with the five preceding years. The

surveys are not exactly comparable. In any case, the "unclassified" group roughly corresponds to the residuals left after "classified" salary and wage workers have been subtracted from total civilian nonagricultural employment.

[5] The President's Economic Report, Table B-11, p. 235.

[6] In comparison with 1950 alone, however, the figure for the first half of 1951 shows a sharp decline. See below, p. 312.

changes in the other divisions during the same period will be brought out more meaningfully in the year-to-year analysis in later sections.

Methods of Estimation

While the changes in the industrial distribution of the labor force throw some light on the effects of the last war and the current defense program on employment, they do not provide a sufficient basis for deriving relationships between output and employment, or for estimating production and employment at mid-1952.

These estimates can, of course, be made in several ways. For example, a "peak" estimate of output could be obtained from some "expected" employment figure: by deducting "estimated" unemployment from the civilian labor force that is "expected" to be available at mid-1952, an estimate could be made of total civilian employment at that time, and then on the basis of some average productivity estimates, and after adjustments for expected weekly manhour changes, an estimate of gross national product could be obtained.[7]

This approach, however, overlooks the probable shifts of manpower under the impact of mobilization requirements and policies and the associated changes in productivity which were discussed in an earlier section of this paper. Therefore, in our analysis the relationships between the levels of GNP[8] and production in the different fields[9] are first investigated wherever production data are available. For some industries, other variables have to be introduced in order to obtain a stable relationship over a sufficiently long period of time. The production-employment and the production-manhours relationships are then studied for these fields. In the cases for which production data are not available, or where the distinction between employment and production is rather unimportant,[10] the direct relationship between GNP and employment is investigated.

These relationships should be of interest in their own right. In addition, estimates for output and employment (both total and in the

[7] This seems to be the method used by the Council of Economic Advisers in deriving GNP figures for the various periods in 1952.

[8] The GNP figures used in deriving the statistical relationships in the later sections are "real figures" in 1939 dollars (as given in The President's Economic Report, Table B-2, p. 226), instead of in 1951 (first half) dollars, since the latter were not available until after this study was well under way. The "peak" GNP figure in 1939 dollars that corresponds to the figure of $345 billion in 1951 (first half) dollars is $177.3 billion.

[9] The fields covered are industrial production—which includes nondurable goods manufacturing industries, durable goods manufacturing industries, and mining—trade and services, government, transportation and public utilities, contract construction, finance, "unclassified" civilian nonagricultural employment, and agriculture.

[10] For instance, the trade and service industries.

different fields) at mid-1952 can easily be derived from them. In a few instances where it appeared that the relationships in the last two years or so were similar to those during the earlier stage of World War II, "peak" estimates have been based on projections from these short-term trends, instead of those obtainable from the "normal relationships."

Nondurable Manufacturing Industries

The numbers of salary and wage workers employed since 1939 in nondurable manufacturing industries (Chart 1) indicate a long-term trend toward increased employment in this group. This increase, however, no more than reflects the growth of the total labor supply. The changes in this group as a percentage of "classified" employment have not been substantial, though a downward trend during the early war years, a brief reversal of this trend in 1944-46, and a subsequent decline are clearly observable.

Production

From the relationship between nondurable manufacturing production and GNP since 1929, shown in the lower half of Chart 1, it is evident that, with the exception of 1944 and 1945, a good linear relationship held throughout the period, though the path followed during the prewar downswing years 1929-32 was somewhat different from that of the subsequent upswing. It might have been expected that the severe restriction of civilian consumption during the war and its subsequent large-scale expansion would have upset the normal relationship which had become apparent before the war. A large part of the defense requirements during the war were, however, for nondurable goods, so that the reduction in civilian consumption was largely compensated by an increase in military consumption. The postwar points indicate a tremendous expansion in the production of nondurable goods, but their relation to total output has been substantially the same as in the prewar upswing years. The period from 1941 to 1949, with the same exceptions, also presents a good linear relationship which is only slightly different from the relationship for the longer period.

The years 1944 and 1945 were exceptional, no doubt because the share of munitions and military equipment in GNP was at that time at its highest, and the price deflation used in obtaining the real GNP figures has not been adequate to adjust the result to the well-known overvaluation of these items.[11]

[11] It can be seen from the chart that, if the GNP figures had been smaller in these years, the two points would have been closer to the linear relationship between the two variables.

CHART 1. Nondurable Manufacturing Industries: Employment, 1939–51, and Relationship between Production and Gross National Product

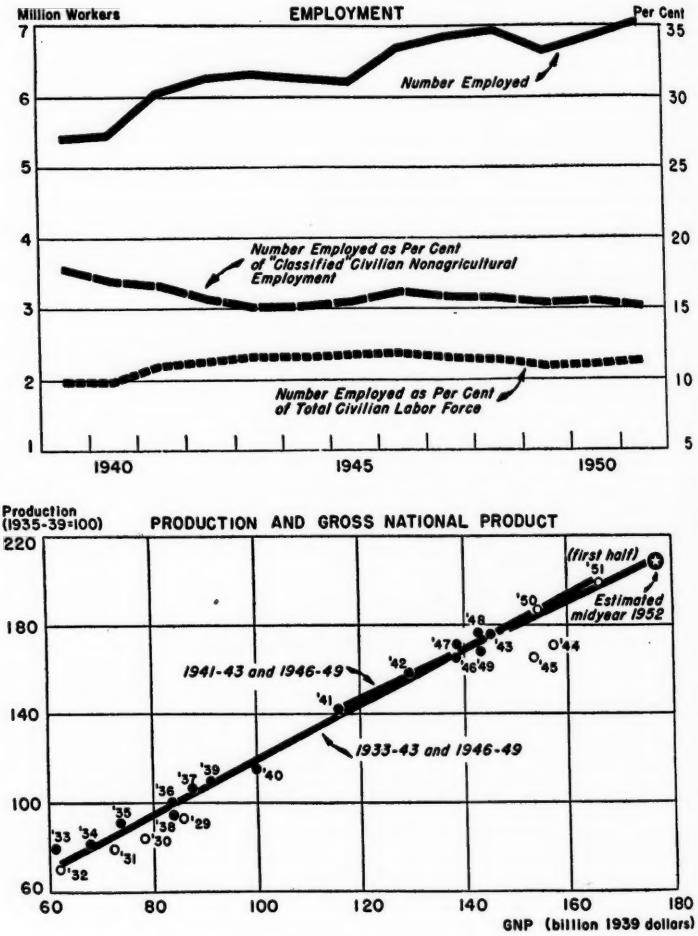
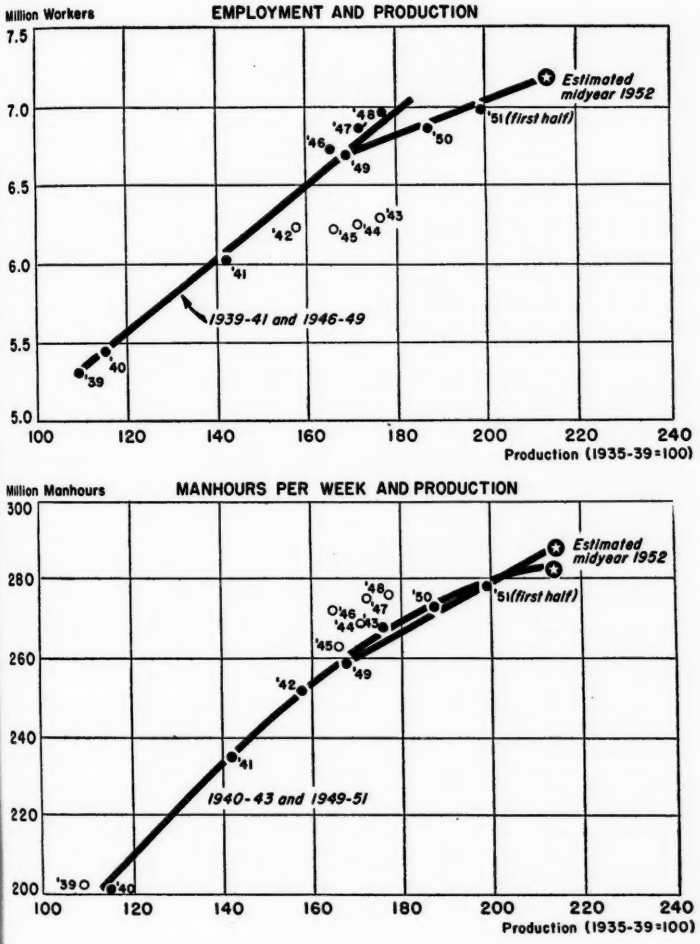


CHART 1a. Nondurable Manufacturing Industries: Relationship between Employment and Production, and between Manhours Per Week and Production



From the data recorded in Chart 1, linear regression equations may be deduced, from which hypothetical production figures may be calculated for subsequent years. Two equations, covering the periods 1933-49 and 1941-49, have been fitted for this purpose, 1944 and 1945 being omitted in both cases. The year 1950 and the first half of 1951 have also been omitted, so that the actual values for these years may be compared with the extrapolated values based upon the regression equations.[12] These computed values turn out to be very close to the recorded values, as shown in Table 6.

TABLE 6. INDEX OF NONDURABLE MANUFACTURING PRODUCTION
(1935-39 = 100)

	Actual [1]	Projected (Equation 1) [2]	Projected (Equation 2) [2]
1950	187	187	186
First half 1951	199	202	200
"Peak" estimate	...	215	212

[1] From *Federal Reserve Bulletin.*
[2] Equation in Appendix.

The "average" elasticity of nondurable industrial production with respect to GNP, i.e., the slope of equation 1 or 2 multiplied by the ratio of the mean values of GNP and the index of nondurable manufacturing production, is 1.01 or 0.93. In other words, an increase in GNP means an approximately equal percentage expansion in nondurable manufacturing production.

If GNP reaches $345 billion by the middle of 1952, the probable level of the index of nondurable manufacturing production at that time, based upon these regression equations, will be 215 or 212 (1935-39=100). In making the employment estimate below, the latter figure has been used, because equation 2, upon which it is based, gives a slightly better fit for the first half of 1951.

Employment

From the data, shown in Chart 1a, for employment (data being available only since 1939) and production in nondurable manufacturing industries, it is clear that the postwar points for 1946-49 form a good linear relationship with the prewar points for 1939-41. For the war years, however, the points form another line, with a much less pronounced slope, increases in weekly working hours and improvements in efficiency per manhour making possible a greatly increased pro-

[12] See equations 1 and 2 in the Appendix.

duction without any significant change in the number of workers. A similar tendency was apparent in 1950 and the first half of 1951. If it is assumed that this trend will continue, employment in mid-1952 may be estimated by extending the linear relationship indicated by the figures for 1949, 1950, and the first half of 1951.[13] This gives an estimated "peak" employment in nondurable manufacturing industries of about 7.18 million. The elasticity of employment with respect to production is 0.31, which means that a one per cent expansion in production requires an increase of only 0.31 per cent[14] in the number of workers.

Manhours

The number of manhours worked is an element directly relevant to this study, especially in view of the fact that the wartime expansion of nondurable manufacturing production was obtained with an almost constant number of workers. The relationship between weekly manhours worked and production in this field is shown in the lower half of Chart 1a. A linear relationship could be fitted to the data for the period 1939-49, but closer study reveals more meaningful relationships.

Data for the earlier years of World War II, 1940-43, and the period 1949-first half of 1951, which are the initial years of the two defense programs, form a nearly perfect parabolic curve. As the respective defense programs unfolded, the efficiency of nondurable manufacturing production improved in much the same way. There is also a fairly good linear relationship for the three immediate postwar years, 1946-48, and another linear relationship for the last three points, 1949-first half of 1951.

If 212 (1935-39=100) is taken as the "peak" estimate for the index of nondurable manufacturing production, a reasonable estimate of the number of weekly manhours worked in nondurable manufacturing industries can be obtained by using either the parabolic curve or the linear relationship for 1949-51 (first half).[15] The estimate obtained from the parabolic curve is 283 million manhours per week, and that secured from the linear relationship is 287 million.

[13] See equation 3 in the Appendix. A seasonally adjusted employment figure is available for the first half of 1951 only for manufacturing industries as a whole (16.01 million). An estimate, 7.04 million, has been obtained for nondurable manufacturing industries by multiplying 16.01 million by the ratio of seasonally adjusted *factory employment* in nondurable manufacturing industries to that in manufacturing industries as a whole.

[14] This figure, which represents the "average" elasticity of the equation, is slightly higher than the "finite" elasticity given above (p. 284).

[15] See equations 4 and 5 in the Appendix.

Durable Manufacturing Industries

The phenomenal increase in employment in durable manufacturing industries from 1939 to 1944, reflecting the heavy demand during the last war, and the subsequent decline both in actual numbers and in percentages of the total civilian labor force and of "classified" civilian nonagricultural employment are shown in Chart 2. The effects of the current defense program on these industries are indicated by the increases in all three measurements in 1950 and the first half of 1951.

Production

Durable manufacturing production is the field in which the impact of the defense program is expected to be greatest. With real GNP [16] at any given level, any increase in production for defense may be expected to require a higher level of production of durable manufactured goods. Therefore it is not surprising to find many shifts in the relation between durable manufacturing production and GNP in the period 1929-first half of 1951 (lower half of Chart 2). When, however, the peacetime and wartime periods are distinguished, a meaningful interpretation of the changes in the relationship becomes possible.

As observed above for the nondurable manufacturing industries, the prewar downswing years (1929-32) followed a somewhat different path from the upswing years (1933-37). During the period 1938-43, the steady expansion of the defense program shifted the relationship, with a steeper slope than in the peacetime upswing years. With the decline in GNP in 1944-46 there was a steady reduction of durable production. It is rather unexpected that, in spite of the heavy backlog of demands for durable civilian goods, the postwar points 1947-49 are actually below the prewar upswing relationship (1933-37).

The 1949-51 (first half) points form a perfect straight line. It would be tempting simply to project this line to forecast the level of durable production when the defense program reaches its planned "peak" at the middle of 1952; but there are some other variables which should be taken into account in explaining the behavior of durable manufacturing production over a longer period of time. One of these relevant variables is, obviously, the ratio of defense expenditure to total product. Another is machine tool shipments. Both in the earlier years of the last war and at the present time, machine tools have been a bottleneck checking expansion in the production of durable military equipment. In spite of heavy orders, production is not possible if adequate machine tools are not available for retooling the plants.

[16] See footnote 8, p. 288.

A multiple regression equation covering the period 1939-49, in which GNP, the ratio of defense expenditure to total product, and the index number of machine tool shipments [17] are regarded as three independent variables, has accordingly been constructed,[18] and the extrapolated figures for production in 1950 and the first half of 1951 based upon this function correspond reasonably well to the recorded figures for these periods (Table 7). The probable index of durable manufacturing

TABLE 7. PRODUCTION, EMPLOYMENT, AND WEEKLY MANHOURS FOR DURABLE MANUFACTURING INDUSTRIES

	Production (1935-39=100)		Employment (million workers)		Weekly Manhours (million manhours)	
	Actual [1]	Estimated [2]	Actual [3]	Estimated [4]	Actual [5]	Estimated [6]
1950	237	231	8.01	7.94	330	345
First half 1951	274	266	8.97	8.87	372	396
"Peak" estimate	...	324	...	10.14	...	464

[1] From *Federal Reserve Bulletin*.
[2] Based on equation 6 in Appendix.
[3] Based on data of the U.S. Department of Labor. The figure for the first half of 1951 is a seasonally adjusted figure obtained by the method described in footnote 13, p. 293.
[4] Based on equation 7 in Appendix.
[5] Based on data of the U.S. Department of Labor.
[6] Based on equation 8 in Appendix.

production, based upon this regression equation, in mid-1952 when the defense program reaches its planned "peak," is 324.[19]

Employment

The relationship between employment and production in the durable manufacturing industries since 1939 (the first year for which separate employment figures for this industrial group are available) is shown in the top section of Chart 2a. While a fairly good linear relationship is observable for the period as a whole, it is particularly good for the 1939-45 and 1949-51 (first half) points, the points corresponding to the years during which the two defense programs were expanding. A linear regression equation,[20] covering 1939 to 1945 and 1949, again gives satisfactory results when the values for 1950 and 1951 (first half)

[17] This index is in terms of physical volume, obtained by deflating the Department of Commerce index of value of shipments by the wholesale price index of metal products.
[18] See equation 6 in the Appendix.
[19] The figure used for machine tool shipments in this computation was obtained by a simple linear trend extrapolation of the index to mid-1952. This is a reasonable procedure, for during the earlier stages of the last war there was also a linear trend in machine tool shipments.
[20] See equation 7 in the Appendix.

CHART 2. Durable Manufacturing Industries: Employment, 1939–51, and Relationship between Production and Gross National Product

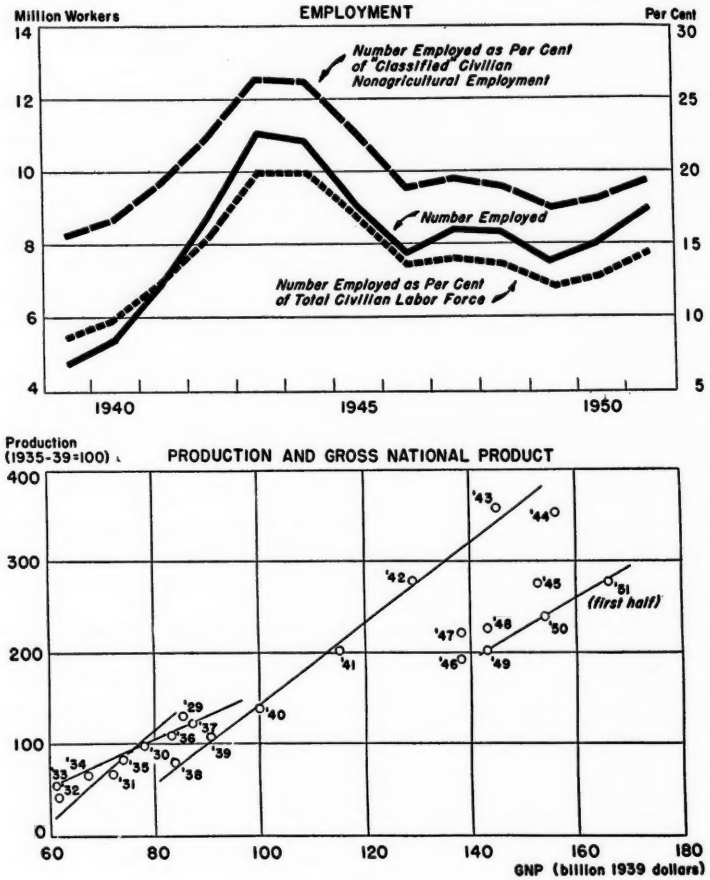
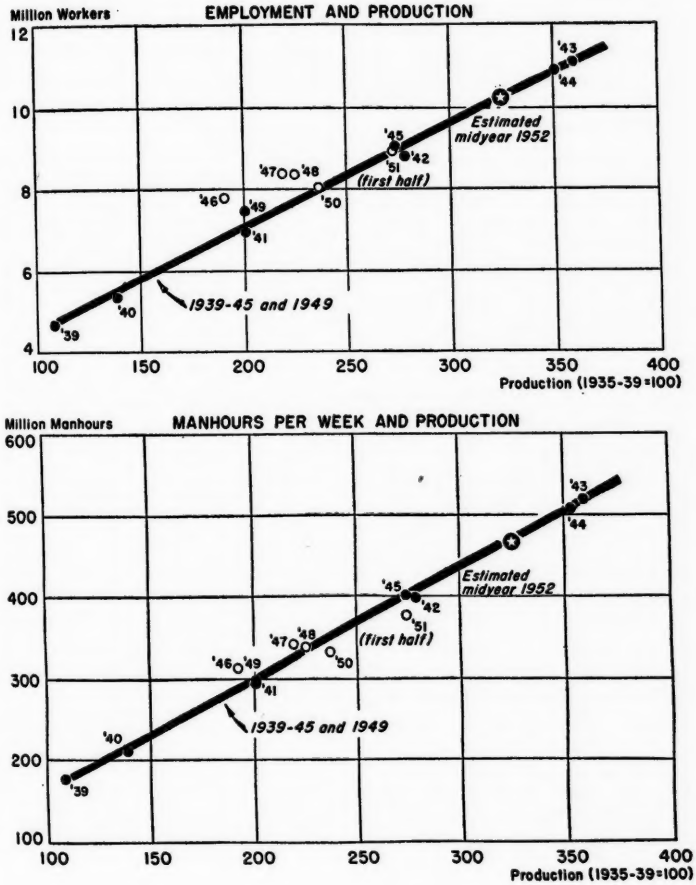


CHART 2a. Durable Manufacturing Industries: Relationship between Employment and Production, and between Manhours Per Week and Production



obtained by projection are compared with the actual record of employment in those periods (Table 7). On the basis of this regression equation, the "peak" employment in this field, corresponding to the "peak" production index of 324, is 10.14 million.

Manhours

During World War II there was a substantial increase in the weekly hours worked per man, so that the relationship between weekly manhours and production, shown in the lower section of Chart 2a, might be expected to be even better than that between employment and production.

As expected, the correlation coefficients of this relationship, both for 1939-49 as a whole, and for the years 1939-45 and 1949, are slightly higher than the corresponding coefficients for the employment-production relationships. The figures for 1950 and 1951 (first half) projected from the equation for 1939-45 and 1949[21] are, however, not so close to the actual figures as in the employment case (Table 7). The estimate of "peak" weekly manhours, corresponding to a "peak" production index of 324, is 464 million.

Alternative estimates of employment and manhours

These results may be compared with those obtained by a simpler method of estimation, which directly derives employment and manhours worked in durable manufacturing production from their relationships with GNP and the ratio of defense expenditure to GNP during 1939-49. By extrapolating for 1950 and 1951 (first half) from the employment equation,[22] an estimate is obtained of 8.55 million workers in 1950, compared with the reported figure of 8.01 million; and for the first half of 1951, the estimate is 9.37 million workers, against the actual figure of 8.97 million.[23] These estimates are not so close to the actual magnitudes as those obtained above. The corresponding "peak" estimate is 10.47 million workers, somewhat larger than the previous estimate of 10.14 million. (The estimate of 10.47 million workers is given in Table 1 as the "first alternative" estimate for mid-1952.)

The extrapolated values derived from the weekly manhours equation,[24] however, are closer to the actual data than those obtained above: the estimate for 1950 is 340 million weekly manhours, against the reported figure of 330 million; for the first half of 1951, the estimate

[21] See equation 8 in the Appendix.
[22] See equation 9 in the Appendix.
[23] See footnote 3, Table 7.
[24] See equation 10 in the Appendix.

is 378 million, compared with the reported figure of 372 million. The "peak" estimate obtained from this equation is 437 million weekly manhours, somewhat below the earlier figure of 464 million.

Mining Industries

In terms of percentages of the total civilian labor force and of total "classified" civilian nonagricultural employment, a slight long-term downward trend in mining employment is observable (Chart 3). Even the heavy demand for mineral production during World War II did not significantly affect this tendency.

Production

The elasticity of mining production with respect to GNP based upon a regression equation [25] for the period 1929-40 was 1.08. The wartime points followed a path with a less steep slope (Chart 3). The 1949-51 (first half) points form a straight line with a slope similar to that of the prewar years. By a simple extension of this relationship, the "peak" index of mineral production is estimated at 176 (1935-39=100).

Employment

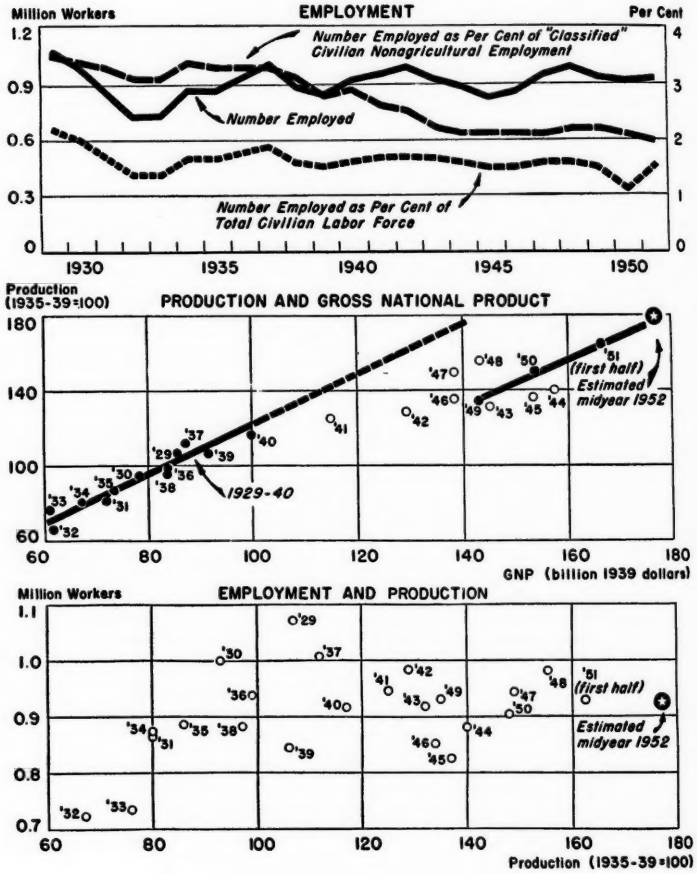
While the relationship between mining employment and production is haphazard, it can be seen from the bottom section of Chart 3 that the years 1929-42 may be divided into three periods, 1929-35, 1936-38, and 1939-42, with output per man tending to increase in each successive period. These increases are not to be interpreted as evidence of improvements in efficiency, since there must also have been substantial changes in weekly manhours worked in this field.[26] The important point is that the 1949-51 (first half) points show an increase in the production index from 135 to 163 (1935-39=100) without any increase in the number of workers. The "peak" employment figure is assumed to be the same as in the first half of 1951, 0.92 million workers;[27] but, since a considerable expansion is expected in this field, this estimate may be too low.

Alternative Estimate of Industrial Employment

An alternative estimate of industrial employment as a whole can be obtained by relating this variable directly to GNP and to the ratio

[25] See equation 11 in the Appendix.
[26] No comprehensive data are available for manhours covering the entire field of mining.
[27] Seasonally adjusted.

CHART 3. Mining Industries: Employment, 1929–51, and Relationship between Production and Gross National Product, and between Employment and Production



of defense expenditure to GNP for the period 1939-49. The 1950 employment estimate obtained from this equation [28] is 16.66 million workers, compared with the actual figure of 15.79 million; for the first half of 1951, the estimate is 17.78 million, against the reported figure of 16.93 million.[29] The "peak" employment in industrial production as a whole is estimated from this equation at 18.99 million workers. (This estimate is given in Table 1 as the "second alternative" estimate.) This may turn out to be an over-estimate, if the trend of negative "residuals" in 1950 and the first half of 1951 is maintained.

Trade and Service Industries

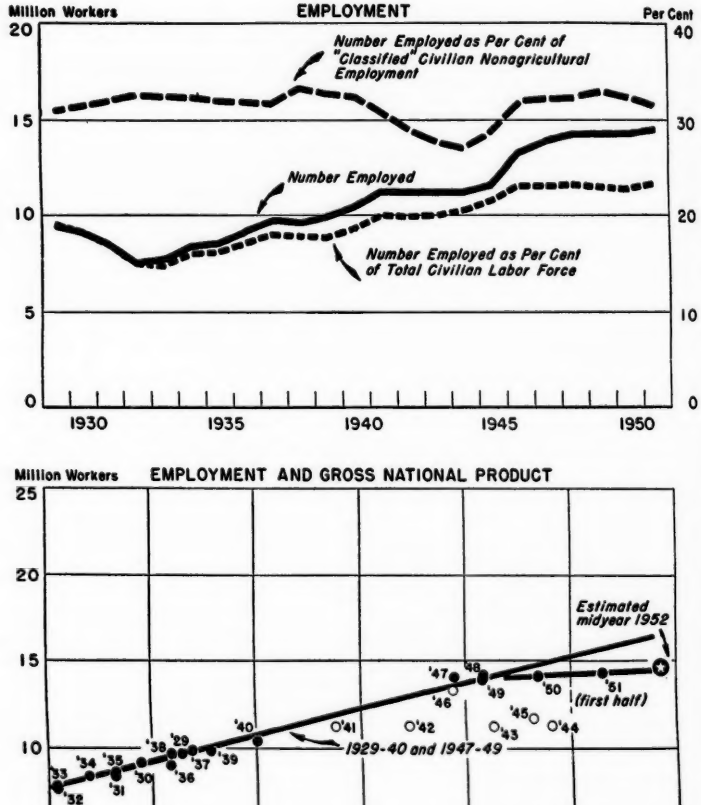
The trade and service industries rank next to the manufacturing industries in the number of salary and wage workers employed, averaging roughly 14 million per month in 1950.[30] As shown in Chart 4, the proportion of trade and service employment in total *classified* nonagricultural employment has been fairly constant: it averaged about 32 per cent both in the thirties (1920-40) and after World War II (1946-49). However, it dropped to about 28 per cent during the war. As a percentage of the total civilian labor force, its importance has steadily increased since 1933.[31]

Trade and service employment had an excellent linear relationship with GNP during the period 1929-40 and 1947-49, the prewar relation being restored after the war (lower section of Chart 4). The "average" elasticity of employment in this field with respect to GNP is about 0.7; an expansion in GNP in peacetime would therefore result in a less-than-equal percentage increase in trade and service employment.

The number of workers employed in this field during World War II was held down at an almost constant level of about 11 million in spite of the tremendous increase in total real output. The 1949-51 (first half) points reveal the same tendency. The three points form a perfect straight line with a very slight slope.[32] By projecting this line, the "peak" employment in this field is estimated at 14.64 million. This may be an underestimate, however, since with less drastic military draft and manpower control measures, employment in this field may

[28] Equation 12 in the Appendix.
[29] Seasonally adjusted.
[30] A change in the reporting routine (i.e., a shift since 1939 of the automobile repair service industry from the trade to the service division) makes it impossible to investigate the trade and service industries separately. See The President's Economic Report, Table B-12, note 2, p. 236.
[31] The *unclassified* nonagricultural employment also includes a large number of proprietors and self-employed persons in the trade and service division. (See section below on Unclassified Civilian Nonagricultural Employment.)
[32] See equation 13 in the Appendix.

CHART 4. Trade and Service Industries: Employment, 1928–51, and Relationship between Employment and Gross National Product



have a better chance to expand with GNP during the defense program than during the war.

Government

There has been a long-term tendency during the past two decades for government employment to grow, both in terms of actual numbers of workers and as percentages of the total civilian labor supply and of total "classified" civilian nonagricultural employment (Chart 5). A consistently good linear relationship between government employment and GNP is shown throughout the period 1932-49.[33] The "average" elasticity of government employment with respect to GNP is estimated at 0.6. The levels of employment extrapolated from the regression equation for 1950 and the first half of 1951 differ very little from the actual figures: an estimated 6.05 million persons in 1950, compared with the actual figure of 5.91 million; and an estimated 6.43 million for the first half of 1951, against the actual figure of 6.26 million (seasonally adjusted). By further projection of this linear relationship, the "peak" government employment is estimated at 6.78 million.

Transportation and Public Utilities

Employment in transportation and public utilities has failed to show any long-term growth commensurate with the increase in total civilian labor supply (see Chart 6). In actual numbers, employment in this field was only slightly larger in 1951 (first half) than in 1929. In terms of percentages of total "classified" civilian nonagricultural employment, there has been a rather clear downward trend.

From the relation between transportation and public utilities employment and GNP, shown in the lower half of Chart 6, it is clear that the prewar upswing years 1933-39 followed a different path from the downswing years 1929-32. The early war years, 1940-44, form a good linear relationship among themselves. Throughout the postwar years the curve seems definitely to have shifted upward.

It is, however, very difficult to construct from these frequently changing relationships a regression equation that can be used for forecasting. In view of the good linear relationship during the early years of the last war, the straight line connecting the three points, 1949-51 (first half), may be taken to represent the relationship likely to be maintained during the next year or two.[34] The "peak" employment in transportation and public utilities thus estimated is 4.20 million.

[33] See equation 14 in the Appendix.
[34] See equation 15 in the Appendix.

CHART 5. Government: Employment, 1929–51, and Relationship between Employment and Gross National Product

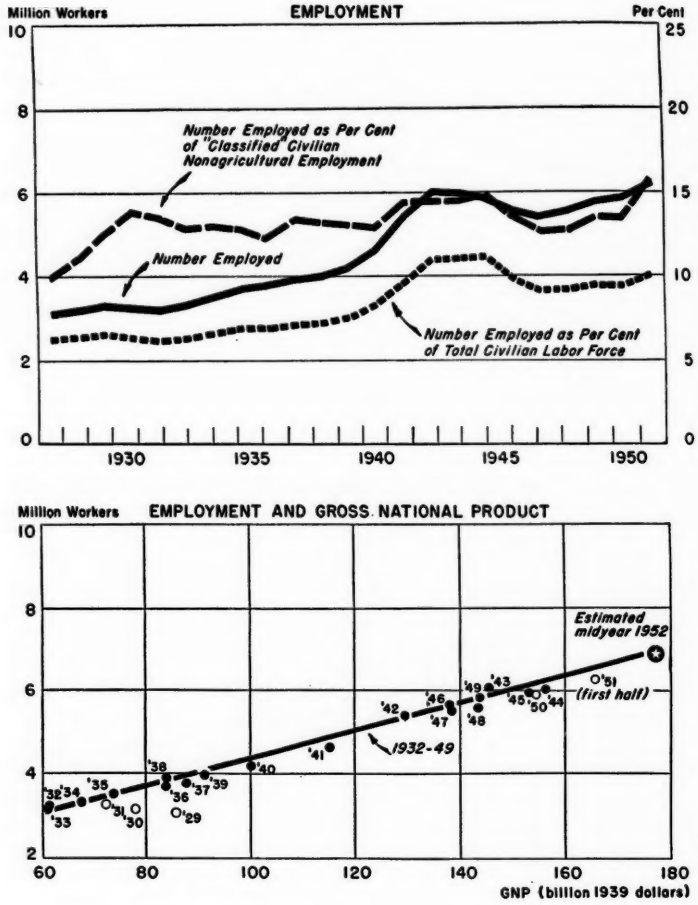
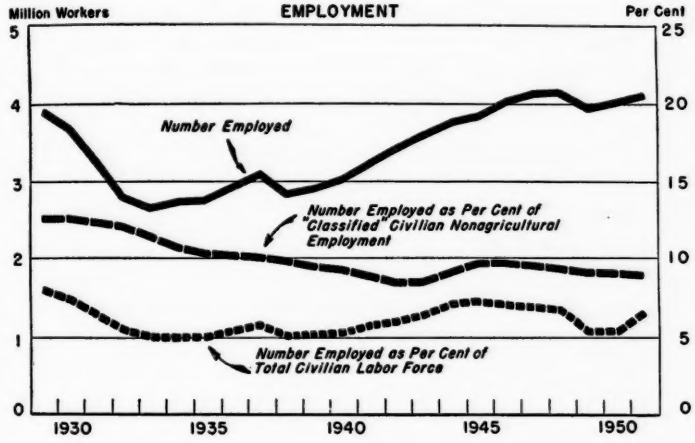
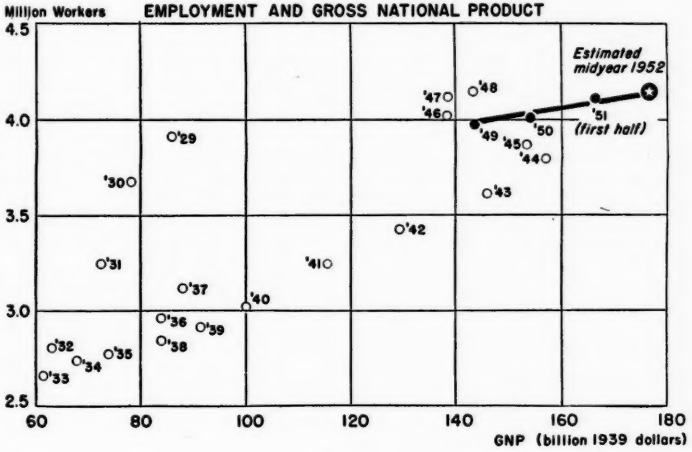


CHART 6. Transportation and Public Utilities: Employment, 1929–51, and Relationship between Employment and Gross National Product





Contract Construction

The generally accepted view that fluctuations in construction employment are more severe than in employment as a whole is confirmed by the data recorded in Chart 7. The severe drop during the prewar depression years and the sharp increase after World War II are clearly revealed. The great expansion in the earlier war years for the construction of defense plants was followed by an equally sharp decline during the later years of the war as a result of the restriction of civilian construction. From the relationship between employment in contract construction and GNP (lower half of Chart 7), it is again seen that the downswing trend (1929-32) was different from the upswing (1933-40). The rapid building-up of defense plants shifted the relationship sharply upward in 1941 and 1942. During the years 1943-45, defense efforts were concentrated upon producing the final products from these plants, and the corresponding downward tendency in construction employment shown in the chart clearly reveals the effects of the severe restrictions in those years on construction for ordinary purposes. The high positions of the postwar points (1947 onward) correspond to the fulfillment of civilian demands pent-up during the war.

Many, though not all, of the defense plants required for the current preparedness program are already available. The experience of the last war suggests the probability of a downturn in the near future similar to, though not so sharp as, that in 1943. The restriction of ordinary construction will, however, probably be much less severe than in 1943-45. For a forecast of construction employment at the planned "peak," there is therefore a choice between assuming approximately the same level of employment as in the first half of 1951 and assuming a continuation of the linear trend of 1949-51 (first half). Since it is probably more prudent to make the former assumption, the "peak" employment in the field of contract construction is estimated at the 1951 (first half) level of 2.55 million (seasonally adjusted); this, however, may turn out to be an underestimate.

Finance

A long-term growth of employment in finance, commensurate with the increase in the civilian labor force, is seen in Chart 8. The reduction during the war years of employment in this field in terms of percentages of total "classified" civilian nonagricultural employment corresponds to the transfer of manpower to more essential fields.

In finance, as in the two preceding fields studied, the relationships

CHART 7. Contract Construction: Employment, 1929–51, and Relationship between Employment and Gross National Product

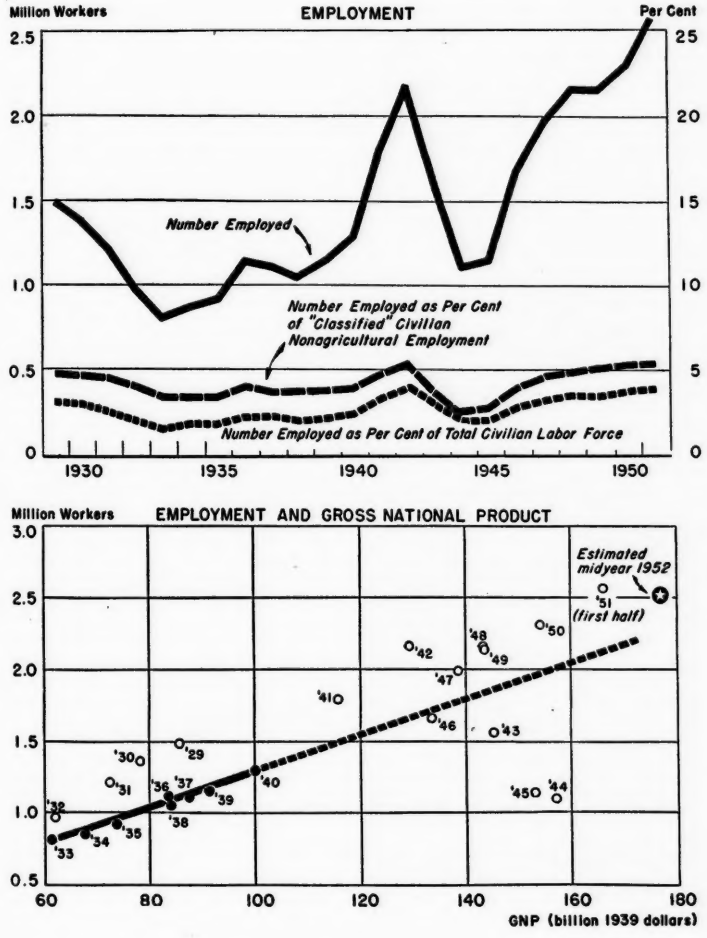
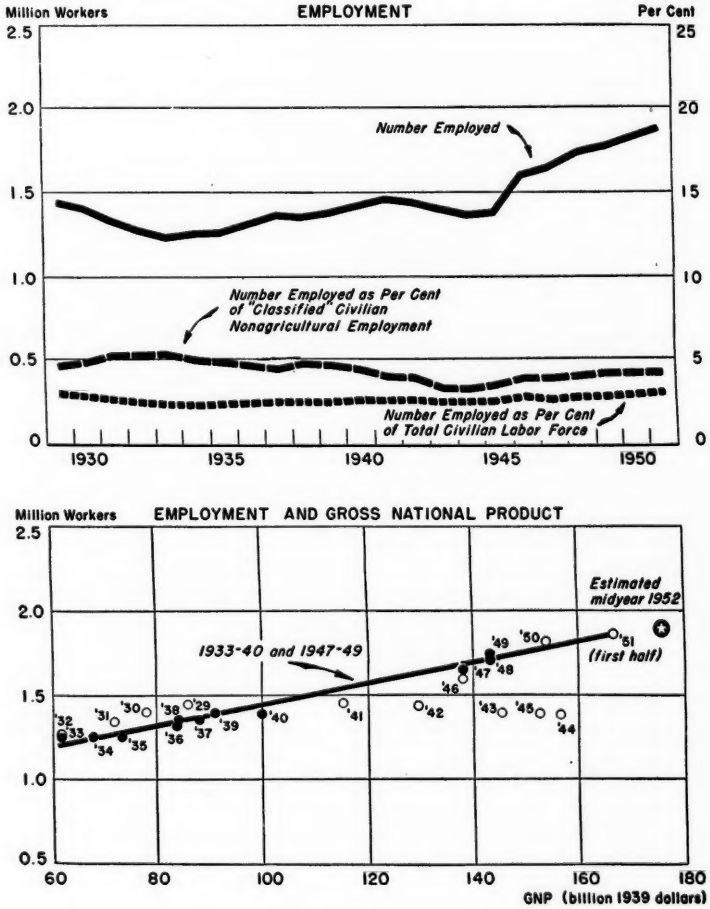


CHART 8. Finance: Employment, 1929–51, and Relationship between Employment and Gross National Product



between employment and GNP during the prewar downswing years (1929-32) and the upswing years (1933-40) followed different paths, as shown in the lower section of Chart 8. Reflecting the effects of policies designed to ensure the rational utilization of manpower, employment in finance, in spite of the increase in GNP, showed a clear downward trend during World War II.

The postwar points indicate that the prewar upswing relationship has been more or less restored. A regression equation [35] covering the period 1933-40 and 1947-49 gives an "average" elasticity of employment in finance with respect to GNP of about 0.43.

The levels of employment for 1950 and the first half of 1951 projected from this equation correspond quite closely to the actual figures: an estimate of 1.78 million persons for 1950, against the actual figure of 1.81 million; and an estimate of 1.86 million for the first half of 1951, which is the same as the actual figure.

In view of the downward trend during the last war, the "peak" employment in finance should not, however, be estimated from this equation. It is more reasonable to assume that it will be maintained at 1.87 million, the level prevailing at the end of the first half of 1951.[36] Because of the less drastic military draft and manpower control measures so far adopted, this may be an underestimate.

Alternative Estimate of "Classified" Civilian Nonagricultural Employment as a Whole

Data for the total numbers of "classified" salary and wage workers [37] employed in civilian nonagricultural establishments from 1929 to the first half of 1951 are plotted in the upper section of Chart 9, together with the percentage relations of this group to the total civilian labor force. The trends are of course a summation of the component tendencies described in preceding sections. A supplementary estimate of the total "classified" workers can be derived directly from the past relationship of these figures with GNP, shown in the lower section of the chart. A correlation coefficient as high as 0.977 is obtained between these variables for the period 1929-49 as a whole.

The employment figures estimated from the regression equation [38] are 44.07 million workers for 1950 and 46.62 million for 1951 (first

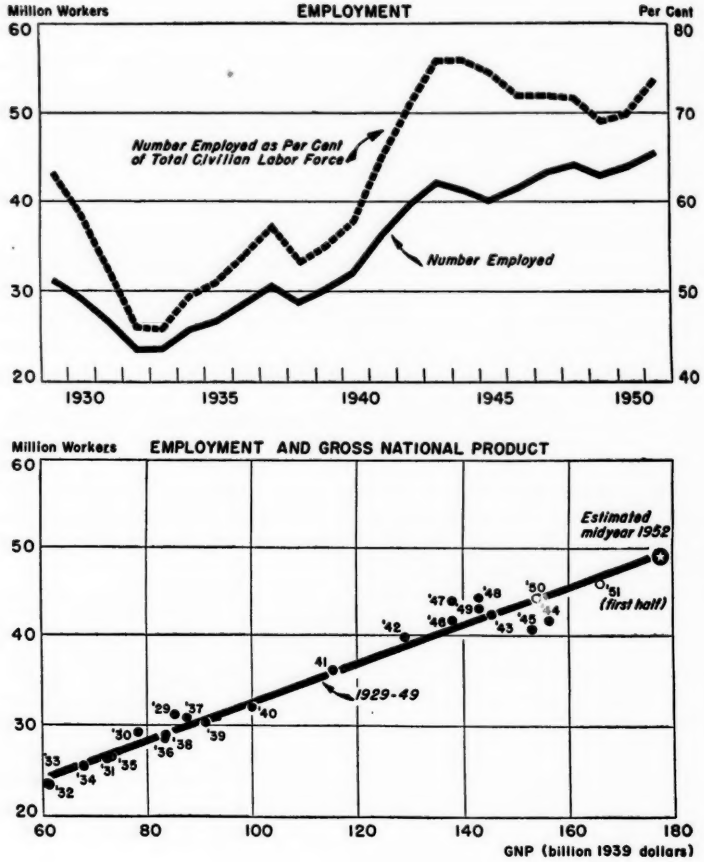
[35] See equation 16 in the Appendix.

[36] Seasonally adjusted figure for June 1951. The June figure, instead of the average figure for the first half of 1951, is used because employment in this field during these six months tended to increase.

[37] For a description of this term, see section above, "Industrial Distribution of Civilian Labor Force."

[38] See equation 17 in the Appendix.

CHART 9. Total "Classified" Civilian Nonagricultural Employment, 1929–51, and Relationship between Employment and Gross National Product



half), compared with the actual figures of 44.12 million for 1950 and 46.25 million (seasonally adjusted) for the first half of 1951. The probable "peak" level of total "classified" civilian nonagricultural employment at midyear 1952, as estimated from this equation, is 48.93 million—the figure given in Table 1 as the "third alternative" estimate.

While the estimated figures for 1950 and 1951 (first half) are very close to the actual data, there was a considerable divergence in 1944-45 and 1947-48. The 1944-45 deviations could be explained by the "flattening out" tendency in the employment-output relationship, especially pronounced in those years, in nondurable manufacturing, trade and services, contract construction, and finance, which has already been explained in earlier sections. No really satisfactory explanation can be given here for the deviations in 1947-48.

"Unclassified" Civilian Nonagricultural Employment

Consideration should now be given to the group "unclassified" civilian nonagricultural employment,[39] which covers the four categories (1) proprietors, (2) self-employed persons, (3) those who had jobs but were not at work for such reasons as vacation, illness, bad weather, temporary lay-off, or industrial disputes, and (4) domestic servants. While detailed figures are lacking for workers in these categories, classified by industrial divisions, it is possible to estimate the number in these four groups as a whole for the period studied.

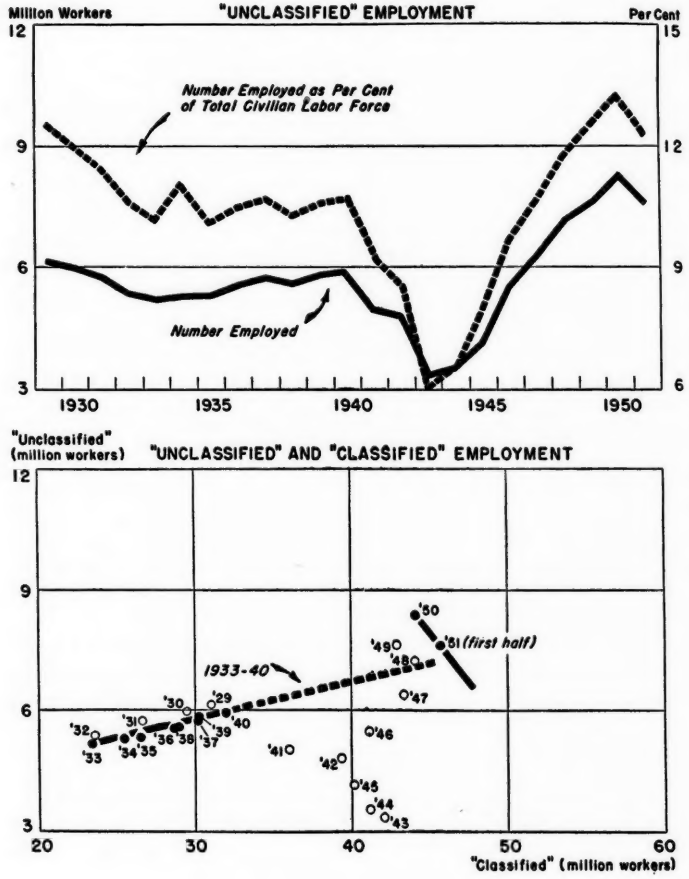
As shown in Chart 10, this group of workers, both in actual numbers and as a percentage of the total civilian labor force, decreased in the depression years; the numbers then rose gradually and by 1940 were almost the same as in 1929. During World War II there was a severe decline. In the postwar years, the actual number exceeded that before the prewar depression; in percentage terms, however, it just about returned to the previous level.

For this group the number of persons employed is related to total *classified* nonagricultural employment (lower half of Chart 10) instead of to GNP. The prewar upswing trend (1933-40) is again different from the prewar downswing (1929-32). The number of persons decreased sharply during the war as a result of wartime manpower policies, whereas in the postwar years there was a tendency toward re-establishing the prewar upswing relationship.

The 1951 (first half) point corresponds closely to the point projected according to a regression equation for 1933-40. On account of the severe decline in 1941-43, this equation should not be used to estimate

[39] For a description of this term, see section above, "Industrial Distribution of Civilian Labor Force."

CHART 10. "Unclassified" Civilian Nonagricultural Employment, 1929–51, and Relationship between "Unclassified" and "Classified" Civilian Nonagricultural Employment



the "peak" number of people in this group. In the absence of any better alternative, it may be assumed that the "peak" figure can be located by projecting the line connecting the 1950 and 1951 (first half) points. The figures thus obtained corresponding to the four estimates given in Table 1 are 6.90 million, 6.79 million, 6.65 million, and 6.68 million. These may all be underestimates, since the military draft and manpower control measures adopted so far under the defense program are by no means so drastic as those of World War II.

Agriculture

There has been a consistent long-term decline in agricultural employment during the past two decades, both in the actual number of workers engaged and as a percentage of the total civilian labor force (Chart 11).

Production

A study of both the relationship between agricultural production and GNP and that between agricultural employment and production is of interest. As shown in Chart 11, the former relationship is so scattered that GNP clearly cannot be regarded either as a factor explaining past variations in agricultural production or as a "predictor" for the future, even though a positive functional relationship is discernible between the two variables. Agricultural production is subject to a host of random influences (such as weather conditions, floods, insects, diseases, etc.), so that the absence of any clear relationship is more or less to be expected. The chart permits little more to be said than that, after a rapid expansion in the earlier war years, agricultural production was more or less constant during 1942-45 owing to manpower shortages, in spite of the tremendous increase in GNP, and that there was a relative increase in agricultural production in the postwar years 1948-49.

Employment

The increase in labor productivity in agriculture between 1937 and 1950 was so great and continuous (bottom section of Chart 11) that the relationship between employment and production is actually negatively inclined. This development was due mainly to two factors. First, there were great improvements in agricultural technique and equipment during that period. Second, the number of farm workers less than fully occupied was declining. For agricultural employment, it is therefore desirable to construct a multiple regression equation

CHART 10. "Unclassified" Civilian Nonagricultural Employment, 1929–51, and Relationship between "Unclassified" and "Classified" Civilian Nonagricultural Employment

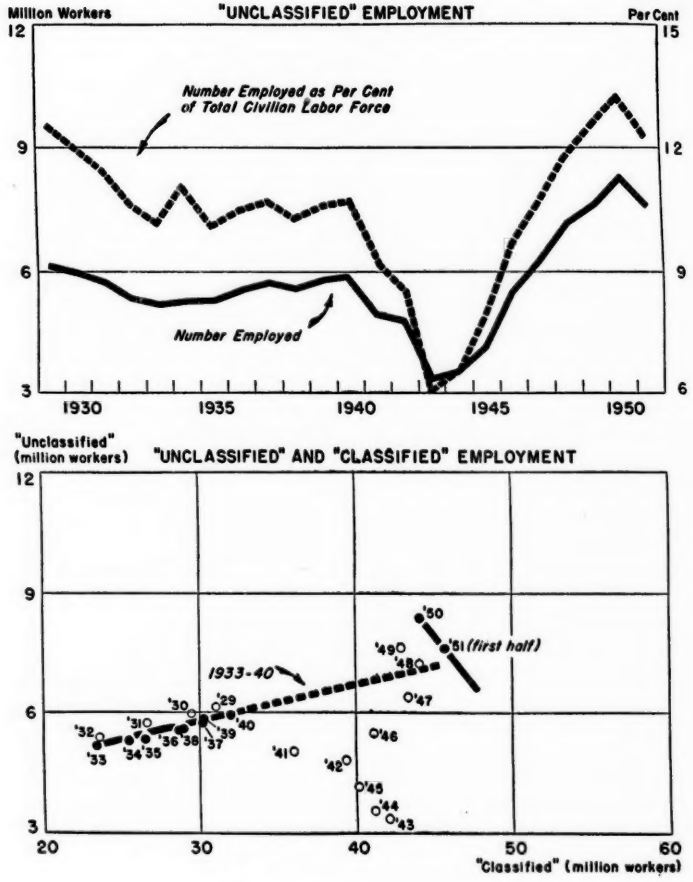


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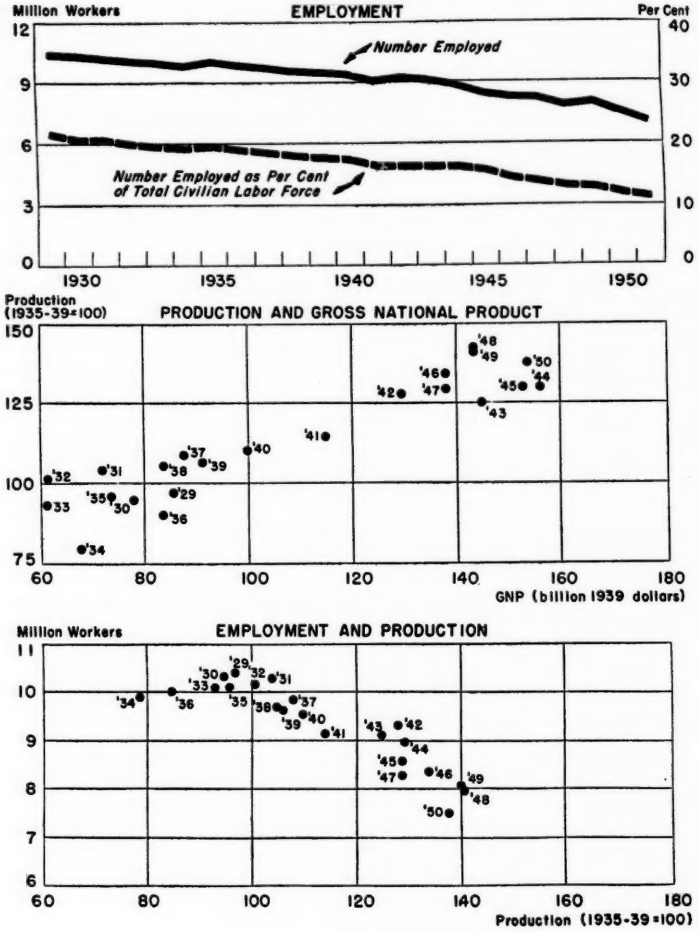
CHART 11. Agriculture: Employment, 1929–51, and Relationship between Agricultural Production and Gross National Product, and between Agricultural Employment and Production



with two independent variables, agricultural production and time.[40] Such an equation is of little value, however, in forecasting the "peak" employment in agriculture, for there is no estimate available of the probable level of agricultural production when the defense program reaches the planned "peak." There is only the assurance that "domestic supplies of foods in the coming year will probably be at least as great as those of the last year."[41] Since the effects of a probably larger production on employment may be compensated by further improvement in efficiency, the bold assumption is made that the "peak" agricultural employment will be at about the same level as that during the first half of 1951, i.e., about 7.05 million (seasonally adjusted).

APPENDIX

The regression equations from which the extrapolated values recorded in the text have been derived are listed below. *GNP* is measured throughout in billions of 1939 dollars; *P* represents the index number of production (1935-39=100) in the relevant industrial sector;[42] *E* the volume of employment, in millions of workers; and *M* the weekly manhours worked, in millions.

Nondurable Manufacturing Industries

1. Period, 1933-43 and 1946-49
   $P=1.22GNP-1.79$
   $R=0.996$

2. Period, 1941-43 and 1946-49
   $P=1.13GNP+11.06$
   $R=0.968$

3. Period, 1949-51 (first half)
   $E=0.012P+4.740$

4. Period, 1940-43 and 1949-51 (first half)
   $M=2.96P-0.65P^2-54.03$
   $R=0.999$

5. Period, 1949-51 (first half)
   $M=0.62P+154.74$

[40] See equation 18 in the Appendix.
[41] The President's Economic Report, p. 169.
[42] Various components of the index of industrial production prepared by the Board of Governors of the Federal Reserve System.

Durable Manufacturing Industries

6. Period, 1939-49

$$P=1.85GNP+2.05D/GNP+0.19T-77.84$$
$$\quad (0.39) \qquad (0.60) \qquad (0.07)$$

(where D=defense expenditure and T=index of machine tools shipments)

$R=0.973$

7. Period, 1939-45 and 1949

$E=0.025P+1.960$

$R=0.996$

8. Period, 1939-45 and 1949

$M=1.36P+22.62$

$R=0.999$

9. Period, 1939-49

$E=0.053GNP+0.056D/GNP+0.076$

$R=0.954$

10. Period, 1939-49

$M=2.01GNP+4.02D/GNP+4.29$

$R=0.956$

Mining Industries

11. Period, 1929-40

$P=1.27GNP-7.30$

$R=0.967$

Industrial Employment as a Whole

12. Period, 1939-49

$E=0.082GNP+0.034D/GNP+3.720$

$R=0.943$

Trade and Service Industries

13. Period, 1949-51 (first half)

$E=0.013GNP+12.30$

Government

14. Period, 1932-49

$E=0.032GNP+1.106$

$R=0.993$

Transportation and Public Utilities

15. Period, 1949-51 (first half)
$E=0.007GNP+2.951$

Finance

16. Period, 1933-40 and 1947-49
$E=0.0063GNP+0.8123$
$R=0.991$

"Classified" Civilian Nonagricultural Employment

17. Period, 1929-49
$E=0.21GNP+11.45$
$R=0.977$

Agriculture

18. Period, 1937-50
$E=0.0067A-0.1840t+9.4068$
$R=0.984$
where A=index of agricultural employment (1935-39=100) and t=time (1 for 1937, 2 for 1938, etc.)

The Modern Colonial Sterling Exchange Standard

H. A. Shannon *

"A society like the British Empire lends
itself very ill to precise definitions."
(*Hansard*, Nov. 9, 1950)

THE MONETARY SYSTEMS of the British colonial territories and their unification under the Colonial Sterling Exchange Standard cannot be fully understood except in the light of their long and complex history and of British constitutional law and history. Since a sketch of their evolution has been given elsewhere,[1] this paper is concerned mainly with their present position. Some minor differences of form and of substance which still survive will be ignored, and only major principles and practices will be discussed in full. Local legal and historical details are given, territory by territory, in Appendix I.[2]

Money and coinage have been immemorial prerogatives of State everywhere—in the British case, a prerogative of the King. In the colonial territories, whether originally settled by the British or acquired by war or treaty, the Governor as the King's representative was, and is, the guardian of the royal prerogatives. The colonies, for example, had, and have, no power to set up a mint by themselves. Today, the royal prerogative in money takes the form, in territories having their own legislatures, of "reserved powers"—that is, the Governor, if presented with a bill or other proposed legislation touching on currency, will with-

* Mr. Shannon, Acting Chief of the British Commonwealth Division, is a graduate of the University of Belfast and the London School of Economics. He was formerly Senior Lecturer in the University of the Witwatersrand and in the University of Bristol and Assistant Secretary, the British Board of Trade. He is the author of articles in various economic journals.

[1] H. A. Shannon, "Evolution of the Colonial Sterling Exchange Standard," *Staff Papers*, Vol. I, pp. 334-54 (April 1951).

[2] The Isle of Man and the Channel Islands are neither colonies nor integral parts of the United Kingdom. In the Isle of Man, the Tynwald assimilated the Manx currency to the British in 1839. In Jersey, sterling was made legal tender by local Acts in 1835 and 1876. In Guernsey, sterling was made legal tender concurrently with French money only in 1870. In addition, Jersey and Guernsey today issue their own pound notes and each has its own local copper coinage. English and French currency circulate side by side, and the rate of exchange of the latter with the local currency is the same as that with English currency. The Trucial Sheikhdoms of the Persian Gulf are also not colonial territories; the currency is the Indian rupee. For other details about them, see *Board of Trade Journal*, May 1951, p. 1120.

hold his assent until the King, or rather the King in Council, signifies assent. In other territories, the Governor has direct power over currency by proclamation. Constitutionally, the Colonies are, in currency matters, ultimately under the control of the home Government, more particularly under the Secretary of State for the Colonies.[3] The position in the Dominions is quite different. A Dominion has full power of legislation over its own currency by the Act which establishes it as a Dominion, and in a Dominion the King in Council is, in fact, the King acting on the advice of the local independent Cabinet.[4] The special case of Southern Rhodesia is examined below.

Legislation on currency matters in the colonial territories has taken, and continues to take, many forms. But in one way or another, Currency Boards have been set up in the various territories and, however dissimilar they are in form and in name, they all act substantially in the same way. In Hong Kong, however, a complex of government departments and local commercial banks operates as if it were a formal Currency Board. But except in a few minor and anomalous cases,[5] there is a local Currency Board or Currency Authority for each colonial area. The Boards are usually situated in the area in which the currency is to circulate, and they use the Crown Agents for the Colonies to transact their London business for them.[6] The East and West African Currency Boards are exceptions. They are situated in London and act directly and not through the Crown Agents, although linked with them.

[3] Similar arrangements are to be found elsewhere. For example, according to a provision of the U.S. Act of 1934 [48 Stat. I (456) § 2(9)] which granted commonwealth status to the Philippines, legislation in the Philippines affecting money and coinage required the approval of the President of the United States. After the attainment of independence by the Philippines, an agreement between the Philippines and the United States, which granted reciprocal trade preferences between the two countries (the terms of which are set forth in the Philippine Trade Act of 1946), again provided that "The value of the Philippine currency in relation to the U.S. dollar shall not be changed, the convertibility of the peso into dollars shall not be suspended and no restrictions shall be imposed on the transfer of funds from the Philippines to the United States except by agreement with the President of the United States." This agreement expires in July 1974, or after five years' notice by either the United States or the Philippine Republic.

[4] The whole question as to when and how Dominion currencies actually become separate currencies can bristle with legal difficulties in a given case, and its solution can be full of legal niceties and subtleties. For an example, see *Bonython v. Commonwealth of Australia*, 75 C.L.R. (1948). More generally, see "Pounds Sterling," *Bankers' Magazine*, January 1951, pp. 36-46.

[5] Basutoland, Bechuanaland, British Solomon Islands, Gilbert and Ellice Islands, New Hebrides, St. Helena, and Swaziland.

[6] Until 1833 each of the then Colonies appointed its own business agent in London to conduct its general financial affairs there. These agencies were then consolidated and evolved into the Crown Agents for the Colonies. Though supervised by the Secretary of State for the Colonies, the Crown Agents receive their instructions direct from each Colony, and they are financially self-supporting through the commissions and fees they charge for services rendered.

In certain areas, however, it has been found convenient to group some territories together for currency purposes. The West African Currency Board was established in 1912 to cover the territories of Gambia, the Gold Coast, Nigeria, and Sierra Leone. The East African Currency Board on its establishment in 1919 covered Kenya, Tanganyika, and Uganda; and it was extended in 1936 to cover Zanzibar, and in 1951 to cover Aden and British Somaliland. The Southern Rhodesia Currency Board, established in 1939, also covers the territories of Northern Rhodesia and Nyasaland. In 1951, a Board of Commissioners of Currency, British Caribbean Territories (Eastern Group), was established to cover Barbados, British Guiana, the Leeward Islands, Trinidad and Tobago, and the Windward Islands. Proposals are reported as well-advanced for a Currency Board which will serve all the British territories in South East Asia, probably as an extension of the Board of Commissioners of Currency in Malaya, itself an amalgamation in 1938 for the Straits Settlements and the Malay States. The new Board is intended to cover the Federation of Malaya, Singapore, North Borneo, and Sarawak.

The issues of all local Boards are linked with sterling under the Colonial Sterling Exchange Standard, except those of Tonga which are linked with the Australian pound. If historical relics, mostly U.K. silver coins, are ignored, the issues (notes and coin) of the local Currency Boards and of the Hong Kong complex of institutions are the sole legal tender in their own areas.

Convertibility of Colonial Currencies

The rates of exchange between a colonial currency and sterling, and the right of converting the one into the other, are determined by law in most cases, but there are some exceptions in which, however, various administrative instructions or regulations have the same effect as formal law.[7] In those West Indian Islands which, like Jamaica in 1839, adopted the currency of the United Kingdom as their own currency, questions of parity and convertibility did not arise. The Acts merely fixed the rates at which old contracts expressed in local units should be discharged in sterling units. In the other Islands, where the old Spanish silver dollar was maintained as the monetary unit, its value in sterling was fixed by proclamation in 1838 as 4s. 2d., and the evolution of that dollar into the modern British West Indian dollar did not affect its valuation in sterling. This valuation has been confirmed

[7] Compare the Notifications of the Governor-General in Council which used to regulate the convertibility of sovereigns into rupees in the latter part of the 19th Century (J. M. Keynes, *Indian Currency and Finance*, London, 1913), pp. 8-10.

in the various local legislation which has set up the new unified Currency Board for the Eastern Group of Islands. Local acts or local proclamations in British Honduras, Cyprus, the Falkland Islands, Gibraltar, Malta, Mauritius, Northern Rhodesia, Nyasaland, and Seychelles have similarly determined monetary units, parities, and convertibility. In all the foregoing cases, sterling is convertible into local currencies, and vice versa, at the statutory rates, subject only to a small commission which can be varied within narrow statutory limits by means of regulations. In Singapore and Malaya, including Brunei, and, in practice, North Borneo and Sarawak, sterling and local currencies are mutually convertible within a small range of exchange rates fixed or regulated by law. In Fiji, where the currency was originally at par with sterling, a new rate of £F111=£100 was adopted in the 1930's and was reaffirmed by local law in 1948. Though Fiji notes are convertible at this rate without limit, the authorities are under no legal obligation to convert sterling into Fiji notes. In Hong Kong there are no statutory provisions governing rates or conversion; there have been government announcements and bank agreements, but that is all. These three cases have special historical explanations.[8] Again, in East and West Africa, there seem to be no *statutory* obligations about rates and double convertibility. The proclamations concern themselves with the physical nature of the coins, not with their sterling or other value. Regulations made by the Secretary of State for the Colonies prescribe parity and double convertibility at 20s. to the £, but these regulations, although they bind the Boards—which is the practical point—are in a way executive rather than legislative in nature. Moreover, where the United Kingdom has announced par values under the Fund Agreement (and it has done so in the anomalous cases mentioned), there are of course legally fixed and binding rates of exchange. And everywhere there is in practice unlimited convertibility of sterling into local currencies and of local currencies into sterling at publicly fixed rates of exchange.

The local Currency Boards are, therefore, merely automatic moneychangers: they issue legal tender locally on demand against deposits of sterling in London, they hold this sterling in cash or sterling securities, and they pay it out again on demand against local coin or notes paid in. They have no discretion in the matter. Constitutionally, the rate of exchange is fixed in London by the central authorities. The quantity of money in circulation can be increased only by depositing an equivalent increase in sterling in London; it can be decreased only by an equivalent redemption in sterling in London. The colonial authorities can have no independent monetary policy. And as the legal

[8] See Appendix I, under Malaya, Fiji, Hong Kong.

tender basis is fixed in this way, it also follows that, strictly, the local banks can have no independent credit policy, if needed, outside narrow limits determined by their own "sound" banking practices, e.g., by small variations in their cash ratios or by effecting economies in the use of cash. This is particularly true where local production is mainly on a full cash basis, but is more qualified where the banks have some, though limited, local investment opportunities. Nor can the public do very much, for example, by varying the velocity of circulation. The changes of cash and credit in a colonial territory are primarily functions of the changes in its balance of payments. The more favorable its balance, the more sterling it can deposit in London and the greater will be its quantity of local cash; the more adverse its balance, the more it must reduce its quantity of local cash to obtain the sterling in London needed to meet the adverse balance. When the export sales of a Colony are high, the local income tends to be high and the public may wish to add to its cash holdings, i.e., to increase the quantity of currency. When exports and income are low, it may wish to run down cash holdings, i.e., to reduce the quantity of currency. When, as during the war, income was increased by increased quantities of exports at higher prices and by, e.g., local military expenditure, and when spending was kept down by, e.g., import restrictions and shortages of supplies, colonial holdings of cash rose willy-nilly and the older freedom of choice disappeared. As a consequence, there was a great increase in colonial "sterling balances," [9] which still continues.

Banks in the Colonial Sterling Area

In almost all cases, only the banks have dealings with the local Currency Boards.[10] The banks' charges for exchange are not legally fixed and consequently, in theory, these rates might deviate from the fixed rates, if the banks should act monopolistically. In practice, the commission levied by the Currency Board, or the range within which it operates, closely determines the actual rate of exchange. In Malaya, where there is considerable banking competition, the banks, by various off-settings in their own operations, often quote finer rates than the minimum and maximum rates of the Currency Board.

[9] See Cmd. 7167 (*The Colonial Empire,* 1939-47), p. 106: "The growth of the currency circulation and of bank balances may be attributed partly to military expenditure in the Colonies and partly to a relative increase in exports of Colonial produce as compared with imports, due to wartime conditions of short supply and to the cooperation of Colonial Governments in following a strict policy of import licensing."

[10] There are no colonial currency *laws* which restrict Currency Boards to dealing only with banks. Although this practice was at one time carried on administratively in West Africa, it has now been discontinued.

The position of the banking system within the currency systems is fairly simple in principle but varies in detail from territory to territory. As the ultimate legal liability of a bank is to redeem its deposits on demand in the local legal tender, it must keep its ultimate reserves and general assets in a place and in a form where they are easily encashable into local legal tender. This means London and sterling securities marketable there. When a bank needs local legal tender, it draws on its sterling cash or sells its sterling securities, pays its check over to the Crown Agents or the Currency Boards in London, and the ensuing legal tender is delivered to it in the local territory. A large proportion of colonial bank deposits are in fact "redeposited" in London by the banks in the form of London cash and sterling securities; in short, they become part of colonial "sterling balances." Because of the economic structure of many territories, the banks may, in fact, have little or no appropriate outlet for their funds in local investment.

The main characteristic of the West African territories is a large peasant population in a subsistence stage of economy and producing cash crops under individual conditions and land tenures which preclude bank advances. At the same time, the large export firms are sufficiently well established to obtain in London any advances they may need. Thus in the West African and similar territories, the main function of a bank is to be a custodian of cash and not a local provider of short-term capital. There are more possibilities of the latter in East Africa, where the economy is more diversified and is based partly on European plantations and secondary industries. But even there the general absence of suitable local banking opportunities for investments and advances leads to the use of funds in London rather than locally. In the West Indies, however, bank advances by way of "crop liens" are very common, and the whole economic structure permits more easily of the banking practices normal to advanced communities. In the Eastern territories, such as Malaya and Hong Kong, banking is highly developed in all respects. But in general, either because of the need of access to legal tender in London or the absence of suitable local investment outlets and local capital money markets, the colonial banks hold a high proportion of their assets in London. They too are, to some extent, merely automatic money-changers, but on a retail and domestic level, as the Currency Boards are on a wholesale and international level.

These arrangements under the Colonial Sterling Exchange Standard preclude local "currency management" or "central banking" as ordinarily understood. There is no local discretion for there are no local fiduciary issues.[11] Very few colonial territories are, for example, in a

[11] See, however, the discussion of Southern Rhodesia below.

position to take measures by themselves to resist the effects of recessions on their economies, and the preservation of their balances of payments is not a primary consideration in their economic policies.

Colonial Reserves [12]

In modern practice the Currency Boards aim at holding assets equal to about 110 per cent of their liabilities. A recent balance sheet of the West African Currency Board may, as an example, be summarized as shown in Table 1.

TABLE 1. BALANCE SHEET OF WEST AFRICAN CURRENCY BOARD, JUNE 30, 1950

	Thousand Pounds
Assets	
Investments at market prices	65,058
Amount on deposit	6,000
Cash on hand and at banks	661
Silver coin in currency centers, at face value	5
Suspense account	11
	71,735
Liabilities	
West African currency in circulation at face value	66,277
Less market value of silver in coins	636
	65,641
Surplus of assets over liabilities	6,094

In general, a cover of 100 per cent is a *statutory* minimum, but the accounting system is such as to maintain the cover as near 110 per cent as possible. For example, the Currency Boards are, as a rule, debarred from paying any "dividend" to their respective Governments out of the income account until such a cover is reached.

The main proportion of cash to be held and the nature of the investments are also mainly matters of practice rather than of detailed positive enactment. Thus, in West Africa, the regulations, as of September 1949, merely say:

> The Board may invest its funds in sterling securities of the Government of any part of His Majesty's dominions or in such other manner as the Secretary of State may approve. The extent to which investments may be made will be left to the discretion of the Board whose duty it will be to hold, subject to any directions which may be received from the Secretary of State, a proportion of its reserves in a liquid form.

[12] A discussion of the 100 per cent reserve system in a different context will be included in an article on currency unification in Libya, to be published in a later issue of *Staff Papers*.

Again, but with an important exception, much the same occurs in the 1950 agreement to set up a unified currency in the Eastern Group of the West Indies:

> The Fund may be invested in sterling securities of or guaranteed by the Government of any part of the British Empire (except the participating Governments) or such other securities as, with the approval of the Secretary of State, may be selected by the Crown Agents: Provided that a proportion of the Fund shall be held in London in liquid form and such proportion may be determined and varied from time to time with the approval of the Secretary of State. The liquid portion of the Fund may be held in cash or on deposit at the Bank of England or in Treasury Bills or may be lent out at call or for short terms in such ways or invested in such readily realizable securities as may be approved by the Secretary of State.

The Bank of England is not always the banker; for example, the old Palestine Currency Board banked at the Westminster Bank; Mauritius has used Martins Bank; the Southern Rhodesia Board uses the Standard Bank; Sarawak, the Chartered Bank; and so on.

The absence of legislative detail in this matter is an old British tradition. It can be traced back to the 1860's in colonial government note issues, and still further back for other colonial note issues. The Bank Charter Act of 1844 itself, in regulating the Bank of England's issues, did not prescribe the nature of the securities to be held; likewise with the Acts regulating the Scotch and Irish issues. The cash ratio of British banks was conventional until 1947 when, by an "understanding" with the Bank of England, they agreed to keep it at 8 per cent. But the general *practice* of Colonial Currency Boards is known: a high authority stated in 1944 that the Secretary of State had ruled that they might invest their funds

> either in short-dated securities (British Treasury Bills, demand or time deposits with United Kingdom banks, etc.) or in British Government, British Dominion Government, Government of India, British Colonial Government or British Municipal Loans, subject to the proviso that, for greater security no authority shall ever invest in loans issued by its own Government or Governments.[13]

The actual facts of any case can be found only in the particular Currency Board's balance sheet. The following statement of investments (in U.K. securities, unless otherwise stated) of the West African Board in 1950 may be given as an example:

	£ million
Maturing within 5 years..... Australia; Perak River Hydro Electric Power Co.; Railway Finance Corporation; National War Bonds; Exchequer Bonds	28.8
Maturing 6-10 years ..... London Electric Transport Finance Co.; New Zealand; National War Bonds; Funding Loan; National Defence Loan; Australia; War Loans	19.7

[13] G. L. M. Clauson, "The British Colonial Currency System." *The Economic Journal,* April 1944, p. 11.

	£ million
Maturing 11-15 years..... Jamaica; Funding Loan; National War Bonds Assented; Southern Rhodesia; Ceylon; Savings Bonds	9.4
Maturing 16 years or more..... Funding Loan; Savings Bonds; Sudan; Savings Bonds; War Loans	7.1
	65.0

In 1948 the Malayan Currency Board held investments of some £25 million scattered over a portfolio of 179 entries. As a further example, the investments of the Jamaican Currency Board may be listed. It will be seen that they include securities of British municipalities as well as securities of the Dominions and other Colonies. Alphabetically they ran as follows in 1948: Australia, Barnsley, Bradford, Bristol, Ceylon, Coventry, Federated Malay States, Fiji, U.K. Funding Loan, Gold Coast, Hull, Kenya, Leeds, U.K. National Defence, U.K. National War Bonds, New South Wales, New Zealand, Nigeria, Northern Rhodesia, U.K. Savings Bonds, South Shields, Sunderland, Trinidad, Uganda, Ulster, and U.K. War Loan. Similar ranges and absence of detailed agreement can be found in the balance sheets of other Boards. The Boards and the Crown Agents use their discretion in picking investments within the general field delimited by the Secretary of State and do not act uniformly.

In general terms, the permanent currency reserves under the Colonial Sterling Exchange Standard may be described as gilt-edged public securities, expressed in a sterling area currency and easily marketable in London.

Southern Rhodesia is a partial exception to all the foregoing. First, it is a self-governing colony and the constitutional authority in London is the Secretary of State for Commonwealth Relations and not the Secretary of State for the Colonies. Second, and of more direct importance, by a local Act of 1947 the Southern Rhodesia Currency Board must, if required by any one of the three Governments for which it acts (Southern Rhodesia, Northern Rhodesia, and Nyasaland), invest not more than a total of 20 per cent of its Currency Fund in local registered government stocks. The allocation of the maximum percentage allowed is Southern Rhodesia 10 per cent, Northern Rhodesia 7 per cent, and Nyasaland 3 per cent. Within the total 20 per cent, the proportion of local stocks to be held by the Board may be varied between the Governments concerned. Theoretically, therefore, Southern Rhodesia, which has a local capital market, could develop a local fiduciary issue backed by local securities issuable at local discretion and not just a normal dependent colonial issue

backed, pound for pound, by sterling in London. There was, in a way, an historical origin for some of this, namely, that the Board on its formation in 1939 took over certain existing assets and liabilities established under older laws, and these assets included some Southern Rhodesian securities—in 1940, about £150,000 out of total securities of £1,275,000. But the Act of 1947 was obviously intended as a change of policy. The Board still held the same £150,000 of Southern Rhodesian securities in 1946 when its total securities amounted to £5,735,000. Its balance sheet for 1951, however, shows a holding of £500,000 in Southern Rhodesian securities out of a total of almost £11,000,000. The others are U.K. securities. In short, Southern Rhodesia has taken one step along the road to Dominion status in currency matters. Northern Rhodesia and Nyasaland, however, are still subject to the authority of the Secretary of State for the Colonies in matters of local investment and, as shown above, there has in fact been no investment of the currency funds in their securities.

The formal prohibition of investment in a territory's own local securities does not appear in the regulations governing the East and West African Currency Boards, but in practice neither of the Boards invests in the local securities. If, however, these territories were to develop local capital markets, and if the Secretary of State consented, they too might develop local fiduciary issues, without a pound for pound backing in London. There would remain, of course, the important difference that discretion would be retained in London whereas, within the Southern Rhodesian group, it has been given to the Southern Rhodesian Government itself in respect of its own securities.

Profits and Accounts

The profits of the Currency Boards are a source of income for their own Governments and not for the U.K. Government. The coins of the colonies are usually minted at the Royal Mint and the currency notes printed in London on the usual commercial terms. Against these and other "costs of production," a Currency Board has an income of dividends and interest on its investments. Thus, as an example, the cost of manufacturing the West African currency in 1950 was £290,000; freight was £36,000; and other items, some £10,000—a total of £336,000. Administrative expenses here, as elsewhere under the Colonial Sterling Exchange Standard, were very small. The income from dividends and interest was about £1,730,000 and from other items £11,000—total £1,741,000. The "profit" was £1,405,000, and £400,000 was appropriated by the Board to the Governments of Gambia, the Gold Coast, Nigeria, and Sierra Leone, the balance of £1,005,000 being

added to the Currency Reserve Fund. Since its inception in 1912, the Board has appropriated £7,900,000 to its Governments. And so on, up and down the colonial territories. The income from currency profits is sometimes an important item in colonial revenues.[14]

As a general rule, no appropriation or "dividend" can be made to the local Government until what may be called the capital account of the Currency Board—the assets it holds against its liabilities in the form of its notes and coin—equals 110 per cent of the face value of the currency in circulation. For it is the aim of most Currency Boards to build up such a currency Capital Fund sufficient to cover the full face value of the currency plus a margin to provide for contingencies, such as depreciation of the securities held as assets. This margin for most colonial territories is placed, in Currency Ordinances, at 10 per cent. It may take a little time to achieve this aim fully in the case of a new currency, such as Malta's which was begun only in 1949; or, though for abnormal historical reasons, a rather long time, as in the case of East Africa. The cover provisions were upset in Hong Kong when the Japanese issued Hong Kong notes without any cover. But the principle is clear and well established.

In the general tidying-up of colonial currencies in the 1930's,[15] the currency accountancy was also overhauled, though there are still some exceptions, e.g., the Falkland Islands. An old "one account" system, in which certain currency authorities transacted their business through one currency fund run in conjunction with the ordinary revenue and expenditure accounts of their colonies, has been replaced, as opportunities occurred, by a system of separate (capital) Currency Funds and Income Accounts. Practice and legislation still vary a little and nomenclature varies even more, but in the majority of the colonial territories the aim of an extra cover as above is achieved, or is being achieved, by an annual transfer to the Currency Fund from the Income Account of an amount equal to 1 per cent of the value of the Fund. After making this appropriation and meeting current expenses, the surplus balance of the Income Account is usually transferred each year to the ordinary revenues of the colony. In turn, the ordinary revenues of the colony are pledged to make good any annual deficit in the Income Account, and this of course implies that over a sufficient period the colonial revenues would be obliged to make up,

[14] It can give rise to some nice constitutional points. For example, Malta, which is both fortress and colonial possession, has a dyarchical form of government and, at one stage in the drafting of its present constitution, income from "reserved powers" was itself reserved. This, taken literally, would have deprived Malta of its currency profits. Naturally, a contrary understanding was agreed upon.

[15] See H. A. Shannon, *op. cit.*, p. 349.

not only any short-fall below full cover in the currency backing, but also the margin in cover up to 10 per cent. In special circumstances, special steps may be taken; for example, in the East African case, the local Governments undertook some of the contingent liabilities implied in the old balance sheets, and in British Honduras in 1950 (and also earlier) the U.K. Government gave a special grant to make good losses of the Currency Commissions. Quite exceptional circumstances apart, the colonial currencies are a source of profit to their Governments, and all are more than fully covered at their face value.

APPENDIX I. Synopsis of U.K. Colonial Currencies

The dates below indicate the first major British connection, but not necessarily colonization, annexation, etc.

ADEN COLONY (1839)

Unit: East African shilling.

Legal tender: East African Currency Board coins and notes (Shs. 5, Shs. 10, Shs. 20, Shs. 100, Shs. 1,000, Shs. 10,000).

Other media: Indian rupees and other Indian coins and notes.

General notes:

i. Aden ceased to be part of British India and became a Colony in 1937.

ii. The East African shilling and the Colonial Sterling Exchange Standard were adopted in 1951, the E.A. shilling replacing the Indian rupee.

iii. Banks: National Bank of India, Messrs. Cowasjee Dinshaw, and the Eastern Bank.

ADEN PROTECTORATES (various dates)

Currencies: East African shilling (now the legal tender), Indian rupees, Maria Theresa dollars, some local coins, and many other coins, both ancient and modern.

General notes:

i. There are some differences in customary usages between the Western and Eastern Protectorates, but the area is not far advanced toward a money economy.

ii. Banks: None.

BAHAMAS (1629)

Unit: £ s. d.

Legal tender: U.K. coins and Bahama Government notes (4/-, 10/-, £1, £5).

Other media: U.S. currency.

General notes:

i. Sterling £ s. d. units replaced ancient local £ s. d. units in 1838.

ii. U.K. silver coins limited to 40/- in legal tender 1936, previously unlimited tender.

iii. U.S. gold and silver coins ceased to be legal tender in 1911 and subdivisions of the ancient doubloon ceased in 1935. Current dollars must be surrendered.

iv. Bank of England notes ceased to be accepted as legal tender in 1947, probably as a consequence of the import and export prohibitions of the Exchange Control Act 1947.

v. Public and mercantile accounts kept in £ s. d.

vi. Local currency notes issued through the agency of the Royal Bank of Canada.

vii. Banks: Royal Bank of Canada and Barclays (Dominion, Colonial, and Overseas).

viii. Bahamas has not joined the British Caribbean unified currency system.

BARBADOS (1625)

Unit: British West Indian dollar.

Legal tender: U.K. coins, coins and notes of the Board of Commissioners, British Caribbean Territories, Barbados Government notes, and British Guiana and Trinidad Government notes.

Other media: Bank notes of Barclays (Dominion, Colonial, and Overseas), Canadian Bank of Commerce, and Royal Bank of Canada.

General notes:

i. Sterling £ s. d. units replaced ancient local £ s. d. units in 1848 but the £ sterling was, from 1949, in turn replaced by the West Indian dollar.

ii. U.K. silver coins limited to 40/- in legal tender in 1947.

iii. See BAHAMAS, General note (iii) and (iv), the U.S. reference being 1935.

iv. Public accounts were kept in £ s. d. units until 1949; mercantile accounts have long been kept in B.W.I. dollars and cents.

v. During the war, the Governments of Barbados, British Guiana, and Trinidad made each other's notes legal tender partly because of difficulties in physical supply.

vi. Banks: Barclays (Dominion, Colonial, and Overseas), Canadian Bank of Commerce, and Royal Bank of Canada.

vii. Barbados has joined the British Caribbean unified currency system. For details, see Appendix II. Other coins and notes will be withdrawn as circumstances permit.

BASUTOLAND (1868)

Unit: South African £ s. d.

General notes:

i. Under a proclamation of 1933, South African currency was made the currency of Basutoland.

ii. Banks: Standard Bank of South Africa.

iii. Basutoland is an African Territory without European settlers or landowners and is governed under the system of "indirect rule" by a Resident Commissioner under the High Commissioner for Basutoland, the Bechuanaland Protectorate, and Swaziland.

BECHUANALAND PROTECTORATE (1885)

Unit: South African £ s. d.

General notes:

i. Until 1932, the legal tender was U.K. and Transvaal coins, and then U.K. coins (except silver) and South African coins. For a year, South African Reserve Bank notes were a conditional legal tender but in 1933 they became full legal tender. In the Northern Protectorate, Southern Rhodesia currency circulates at par.

ii. See BASUTOLAND, General note (iii).

iii. Banks: None.

BERMUDA (1609)

Unit: £ s. d.

Legal tender: U.K. coins and Bermuda Government notes (5/-, 10/-, £1, £5).

Other media: U.S. currency.

General notes:

i. Sterling £ s. d. units replaced ancient local £ s. d. units in 1841.

ii. U.K. silver coins limited to 40/- in legal tender in 1947.

iii. See BAHAMAS, General note (iii) and (iv), the U.S. reference being 1935.

iv. Public and private accounts kept in £ s. d.

v. Banks: Bank of Bermuda and Messrs. Butterfield.

vi. Bermuda has not joined the British Caribbean unified currency system.

BRITISH GUIANA (1814)

Unit: British West Indian dollar.

Legal tender: U.K. coins, local groat (4d.), coins and notes of the Board of Commissioners, British Caribbean Territories, British Guiana Government notes, and Barbados and Trinidad Government notes.

Other media: Bank notes of Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada.

General notes:

i. The ancient units were the Dutch guilder and its subdivisions; later there were added gold doubloons, U.K. shillings, and Spanish and Spanish-American silver dollars. These silver dollars were established, 1838-40, and later became the predecessors of the modern British West Indian dollar, £ s. d. units of account never having been accepted by the local legislature. The groat, unique in the British Commonwealth, is a popular current coin and is an historic relic of the 17th Century Dutch guilder. It will be abolished under (v) below.

ii. Silver coins limited to 40/- in legal tender in 1938.

iii. See General notes for BAHAMAS (iii) and BARBADOS (v), the U.S. reference being 1935.

iv. Banks: Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada.

v. British Guiana has joined the British Caribbean unified currency system. For details, see Appendix II. Other coins and notes will be withdrawn as circumstances permit.

BRITISH HONDURAS (1638)

Unit: British Honduras dollar.

Legal tender: Local coins and British Honduras Government notes ($1, $2, $5, $10).

General notes:

i. Mahogany rated in £ s. d. was the main money until the 19th century, when Jamaican currency was adopted; a local dollar prevailed, 1855-87, Latin American dollars, 1887-94, and the U.S. gold dollar, 1894-1949. In 1949 the British Honduras dollar was linked with sterling.

ii. Banks: Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada.

iii. British Honduras has not joined the British Caribbean unified currency system.

BRITISH SOLOMON ISLANDS PROTECTORATE (1893)

Unit: Australian £ s. d.

Legal tender: U.K. coins and Australian coins and notes.

General notes:

i. The Southern Solomon Islands became a British Protectorate in 1893.

ii. Before the monetary disturbances of the 1930's, the coin in circulation was both U.K. and Australian with, presumably, normal legal tender. There was also a small local note issue. In the 1930's the Australian currency was adopted as the basis and it is now the effective currency. Public accounts are kept in Australian pounds. Compare FIJI, General note (iii).

iii. Banks: None.

BRUNEI (1888)

Unit: Malayan dollar.

Legal tender: Malayan Currency Commission coins and notes (5¢ and up).

General notes:

i. The Sultanate State of Brunei entered into treaty relations with the United Kingdom in 1888.

ii. Banks: Hong Kong and Shanghai Banking Corporation.

CYPRUS (1878)

Unit: £ and piastre (180 piastres to £).

Legal tender: Local coins, certain 2/- and 1/- pieces, and Cyprus Government notes (3 piastres, 1/-, 2/-, 5/-, 10/-, £1, £5).

General notes:

i. This ancient island with a chequered history passed over to British administration and occupation in 1878, was formally annexed in 1914, and was made a Colony in 1925.

ii. A British basis for the complicated Turkish and other coins was finally established in 1882. British silver was withdrawn in 1901. The full Colonial Sterling Exchange Standard was adopted in 1928.

iii. Banks: Ottoman Bank, Barclays (Dominion, Colonial, and Overseas), Bank of Athens, Ionian Bank, Bank of Cyprus, Turkish Bank of Nicosia, Banque Populaire de Limassol, and Banque Populaire de Paphos.

FALKLAND ISLANDS AND DEPENDENCIES (1765)

Unit: £ s. d.

Legal tender: U.K. coins and Falkland Government notes (10/-, £1, £5).

General notes:

i. Since 1833 there has been continuous British occupation of the Islands.

ii. Banks: None, but remittances are available through the Currency Commissioners and the Crown Agents for the Colonies, the Falkland Islands Co., and the Estate Louis Williams.

FIJI (1874)

Unit: Fiji £ s. d.

Legal tender: Local coins and Fiji Government notes (5/-, 10/-, £1, £5, £10, £20).

General notes:

i. Sovereignty was locally ceded to the United Kingdom in 1874.

ii. A British basis for Fiji's mixed currency was finally established in 1881-82. Local notes began in 1913.

iii. Until the 1930's, the legal tender was U.K. coins only and the local Government note issue was on a semi-bullion standard, secured by gold and sterling securities, and legally redeemable only in gold. But export of gold was suspended in World War I, and the notes, though secured more than 100 per cent, were for practical purposes irredeemable. It would seem that Fiji's special legal position was overlooked in various ways in the 1920's. The rate of exchange in the early 1930's was determined commercially by the Australian and New Zealand banks, with further complications when Australia and New Zealand devalued against sterling. Then in 1933-34, the Fiji Government set up a Fiji £ (£F111=£100 sterling) with its own currency notes and coins on the usual Colonial Sterling Exchange Standard. In 1948, when New Zealand reverted to sterling parity and when there was speculation whether Fiji would follow suit, the usual mandatory proviso of the Colonial Sterling Exchange Standard requiring the Currency Commissioners to issue local notes against sterling in London was made permissive. That is, Fiji notes must still be converted into sterling but sterling is not necessarily convertible into Fiji notes. By free vote, the Legislative Council voted the maintenance of the £F111=£100 sterling as parity in November 1948.

iv. Banks: Bank of New South Wales and Bank of New Zealand.

GAMBIA AND PROTECTORATE (1662)

Unit: £ s. d.

Legal tender: British West African coins and notes (10/-, £1).

Other media: In the Protectorate, notes of the Banque d'Afrique Occidentale.

General notes:

i. The early settlement was part of the British Colony of Senegambia 1765-83, of Sierra Leone 1821-43, then a Colony by itself, again a part of Sierra Leone 1866-88, and since then a Colony by itself; Protectorate affairs were finally settled in 1902; general international delimitation of boundaries, 1889.

ii. £ s. d. units of account were established early in the 19th century; trade was mostly barter until the 1890's; but as late as 1912 there were many legal tender media, e.g., U.K. coins, certain French, Spanish, and U.S. gold coins, also general Latin Monetary Union coins. The five-franc piece was finally demonetized only in 1921.

iii. The modern Colonial Sterling Exchange Standard was adopted for British West Africa, including Gambia, in 1912. U.K. coins have since been in process of withdrawal, now largely complete. Local silver coins have unlimited legal tender. Legal tender of U.K. silver was terminated only in 1938.

iv. Banks: Bank of British West Africa.

GIBRALTAR (1704)

Unit: £ s. d.

Legal tender: U.K. coins and Gibraltar Government notes (10/-, £1, £5).

Other media: See General note (ii).

General notes:

i. Gibraltar early evolved its own local unit of account, with complications from its Spanish background; sterling £ s. d. units were attempted in 1825 and were used in public accounts until 1881, but other units were maintained by merchants and the public; Spanish currency, with bimetallic complications from the Latin Monetary Union, was the legal standard from 1878 to 1898, when sterling was finally adopted.

ii. British notes were in use as a medium without legal tender until World War II when their circulation was banned; until at least 1936, Spanish peseta notes—though not

legal tender in Gibraltar and, depending on circumstances, possibly not legal tender in Spain—were in regular use. For details, see Pyrmont *v.* Schott (1937) 4 All E. R. at 713.

iii. Banks: Barclays (Dominion, Colonial, and Overseas), Crédit Foncier d'Algérie et de Tunisie, and Galliano's Bank.

GILBERT AND ELLICE ISLANDS (1892)

Unit: Australian £ s. d.

Legal tender: U.K. coins and Australian coins and notes.

General notes:

i. The Gilbert and Ellice Islands became a British Protectorate in 1892 and a Colony in 1915.

ii. Public and other accounts are kept in Australian pounds, apparently since 1937 after the monetary disturbances of the 1930's. Compare FIJI (iii). During the war, U.S. dollars were also used as currency; they were practically all withdrawn by 1948 except on Canton Island, which also uses Canadian dollars. Otherwise the effective currency is Australian.

iii. Banks: None.

GOLD COAST, PROTECTORATE, AND TOGOLAND TRUSTEESHIP (1662)

Unit: £ s. d.

Legal tender: British West African coins and notes (10/-, £1).

General notes:

i. In this area, which has been under the rule of the Portuguese, the Dutch, the Swedes, the Danes, and the Germans, the Ashanti settlements were annexed to Sierra Leone in 1821; there were wider annexations and separate colonial status in 1850-74 (Danes withdrawing in 1850 and the Dutch in 1872), with final pacification and international delimitation around 1900.

ii. See GAMBIA, General note (ii). Dutch coins and U.K. copper coins were demonetized in 1880, the Africans disliking the taste of copper.

iii. See GAMBIA, General note (iii). There is a strong local preference for the 2/- piece over the shilling, which is the reverse of the preference in Nigeria; the special one-tenth penny minted at a loss for the Gold Coast is acquiring wider popularity in British West Africa, possibly for non-monetary uses.

iv. Banks: Bank of British West Africa and Barclays (Dominion, Colonial, and Overseas).

HONG KONG (1842)

Unit: Hong Kong dollar.

Legal tender: Local coins, Hong Kong Government notes ($1), and bank notes of Hong Kong and Shanghai Banking Corporation, Chartered Bank of India, Australia and China, and Mercantile Bank of India. See General note (ii).

General notes:

i. Sterling units and coins, including gold, were attempted in 1844-54, then abandoned in favor of the Mexican silver dollar (as successor to the ancient Spanish silver dollar) from 1854 to 1864, when the British Hong Kong silver trade dollar replaced it as the monetary standard, with bank notes, however, preferred in circulation; the silver standard was abandoned, as in China, in 1935.

ii. On the abandonment of the silver standard, a special and modified form of Colonial Sterling Exchange Standard was inaugurated in 1935 and re-established on liberation in 1945. Government one-dollar notes and also the bank notes, as above, have unlimited tender; the banks surrendered old silver backing to the Government Exchange Fund which sold the silver for sterling and in exchange issued Certificates of Indebtedness to banks. There is no statutory obligation to redeem these Certificates at any fixed rate of exchange. There is, however, a quasi-formal agreement with the banks under which the Exchange Fund, in effect, buys and sells sterling from them at agreed rates and the banks, in turn, agree to keep their buying and selling rates with the public within agreed limits. While the public has no direct access to the Exchange Fund, it is thus assured of the convertibility of notes into and out of sterling within a determined and narrowly limited range of rates. The system, though different in outward form, works in practice like the Colonial Sterling Exchange Standard elsewhere, since the rate of exchange is maintained, at present, just as firmly as if it were fixed by law.

iii. The notes have a wide circulation in China and elsewhere outside the Colony.

iv. Banks: The facilities are numerous; for example, in addition to the three note-issuing banks, there are 22 incorporated banks authorized to deal in foreign exchange. There are also about 120 other banking or remittance firms.

JAMAICA AND DEPENDENCIES (1655)

Unit: £ s. d.

Legal tender: U.K. coins (with limited tender for smaller silver), local coins, Jamaican Government notes (5/-, 10/-, £1, £5), and bank notes of Bank of Nova Scotia, Barclays (Dominion, Colonial, and Overseas), Royal Bank of Canada, Canadian Bank of Commerce.

Other media: In Turks and Caicos Islands and in Cayman Islands, Bank of England and other notes; see General note (iii).

General notes:

i. Sterling £ s. d. units replaced ancient local £ s. d. units in 1839.

ii. In 1841 certain limits were put in Jamaica on smaller U.K. silver coins, but in the Cayman Islands there seems to have been a general limit of 40/-, which limit was extended to Jamaica only in 1939.

iii. Bank of England notes ceased to be legal tender in Jamaica in 1933, but as late as 1946 they were in circulation in the Dependencies. See also BAHAMAS, General note (iv).

iv. See BAHAMAS, General note (iii), the U.S. reference being 1935.

v. Public and mercantile accounts are kept in sterling.

vi. Banks: Barclays (Dominion, Colonial, and Overseas), Bank of Nova Scotia, Royal Bank of Canada, and Canadian Bank of Commerce.

vii. Jamaica has not joined the British Caribbean unified currency system but the suggestion has been made that it should add B.W.I. denominational values to its sterling notes.

KENYA AND PROTECTORATE (1876)

Unit: East African shilling.

Legal tender: East African Currency Board coins and notes (Shs. 5, Shs. 10, Shs. 20, Shs. 100, Shs. 1,000, Shs. 10,000).

General notes:

i. The territory was originally under the Chartered Company of British East Africa (1876), was proclaimed a Protectorate in 1890, was under the Foreign Office from 1895 to 1905, and thereafter under the Colonial Office; all foreign consular jurisdictions were transferred in 1908 to British courts; various international delimitations of boundaries, 1890-1947.

ii. Originally, the Indian silver rupee was the most customary medium and was made legal tender under British rule until

1919 when its fluctuating value, following silver prices, led to its replacement by the E.A. shilling, which involved difficult redemption problems.

iii. In 1919 the East African Currency Board was set up under the Colonial Sterling Exchange Standard and, amid many difficulties, this Board finally reached (and passed) a 100 per cent cover for its issues in 1946.

iv. East African currency was, during the war, used in Ethiopia and Italian territories. For details, including redemptions, see Lord Rennell's *British Military Administration in Africa* (London, 1948), Chapter XV, and International Monetary Fund, *Balance of Payments Yearbook*, section on Ethiopia.

v. Banks: Barclays (Dominion, Colonial, and Overseas), Standard Bank of South Africa, Exchange Bank of India and Africa, National Bank of India, and Nederlandsche Handel Maatschappij.

LEEWARD ISLANDS (17th Century)

Unit: British West Indian dollar.

Legal tender: U.K. coins, coins and notes of the Board of Commissioners, British Caribbean Territories, and Trinidad Government notes.

Other media: Some U.K. gold coins (see General note (iii) below) and, in the Virgin Islands, U.S. currency; also bank notes of Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada.

General notes:

i. Sterling £ s. d. units replaced ancient local £ s. d. units as follows: Antigua 1847; St. Kitts 1849; Virgin Islands 1852, where, however, Danish coins predominated until at least the 1890's and where U.S. currency now circulates since the U.S. purchase of the adjacent Danish islands; Nevis 1858; Montserrat 1864. The Leeward Islands adopted the the British West Indian dollar as the unit of account in 1948.

ii. Although, until 1948, government accounts were kept in sterling, mercantile accounts have long been kept in B.W.I. dollars.

iii. See BAHAMAS, General notes (iii) and (iv), the U.S. reference being 1935. The occasional use of British and U.S. gold coin is recorded in the Colonial Office List for 1950.

iv. Banks: Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada (no banking facilities in Virgin Islands).

v. Leeward Islands has joined British Caribbean unified currency system. For details, see Appendix II. Other coins and notes will be withdrawn as circumstances permit.

MALAYA, FEDERATION OF (various dates, from 1786)

Unit: Malayan dollar.

Legal tender: Local coins and notes of Malayan Currency Commission (small notes being withdrawn, otherwise 50¢, $1, $5, $10, $50, $100, $1,000, $10,000).

Other media: Pre-occupation Malayan dollar notes—see General note (iii)—and certain bank notes of the Chartered Bank of India, Australia, and China, and the Hong Kong and Shanghai Banking Corporation.

General notes:

i. The original money media used in this area were varied but were mainly the Spanish silver dollar, the silver rupee, and certain Dutch coins. In 1835 the East India Company and, later, the Government of India sought to impose the rupee but, with the transfer of the (then) Straits Settlements from the Indian Office to the Colonial Office in 1866, the Imperial and Colonial Governments legalized and extended the customary silver dollar and, later (1874), added the U.S. trade dollar and Japanese silver yen—all with unlimited tender. Some British token silver coins were also added. In 1903-06, the silver standard was abandoned for a gold or sterling exchange standard with some special techniques to control the spread of the buying and selling rates. The final transfer to the sterling base took place in 1923.

ii. In 1938 the system was extended to other local British territories, and a still wider area is to be embraced under the proposed Malaya-Borneo Currency Commission.

iii. On liberation, the Malayan Commission began to withdraw pre-occupation notes and, in 1948, all such notes (some dating back to 1899) were declared not legal tender, though some still circulate and are exchanged as they come in. Most of the old silver coins seem to have been melted down during the war.

iv. The Federation of Malaya now comprises nine protected states and two settlements.

v. Banks: 15 banking corporations and some 800 other "remittance shops," especially for Chinese remittances.

MALTA (1800)

Unit: £ s. d.

Legal tender: U.K. coins and Malta Government coins and notes; see General note (ii).

General notes:

i. Malta's old currency consisted of coins of the Knights of St. John of Jerusalem plus Spanish and Sicilian dollars; as the first two fell out, the Sicilian dollar became predominant around 1844. After some decades of confusion, including the bimetallic difficulties of the Latin Monetary Union (which stripped Malta of coin), U.K. coins and Bank of England notes became predominant and standard around 1886, mostly through naval pay.

ii. Late in 1939, when overseas expansion of Bank of England notes was deemed undesirable and was physically difficult, Malta Government notes were issued. The Bank of England notes ceased to be legal tender in 1949 and are being withdrawn from circulation. A new issue of Maltese currency, begun in 1949, is replacing them. On supply difficulties, see BARBADOS, General note (v) and SEYCHELLES, General note (iv).

iii. Banks: National Bank of Malta, Barclays (Dominion, Colonial, and Overseas), Sciclunas, and Tagliaferro.

MAURITIUS AND DEPENDENCIES (1810)

Unit: Mauritius rupee and cents.

Legal tender: Local coins and Mauritius Government notes.

General notes:

i. Sterling £ s. d. units legally replaced a varied medley of coins and units in 1825, particularly the Indian rupee, but in practice the rupee held the field until the 1850's when, affected by the gold discoveries, it gave way to British token silver and local notes expressed in rupees (later in sterling), despite the legal use of sterling units and a customary use of a local Mauritius unit of account. With the change in bimetallic ratios in the 1870's, the position of the notes became difficult, and finally in 1876 the silver rupee was re-established as the only legal tender, owing to Mauritius's close links with India. The cents are a decimal inheritance from the French colonization.

ii. The Mauritius rupee was established in 1934 and directly linked with sterling, the currents of trade having changed.
iii. Banks: Mauritius Commercial Bank, Mercantile Bank of India, and Barclays (Dominion, Colonial, and Overseas).

NEW HEBRIDES (1887)

Unit: £ s. d. and French francs.
Legal tender: Sterling, Australian currency and French francs. See General note (ii).
General notes:
i. The New Hebrides group is an Anglo-French Condominium, each Power having sovereignty over its own nationals only, the native population bearing allegiance to neither.
ii. In 1935, Australian currency was recognized by both Powers as valid (with exchange, if any) for payments in sterling, and special arrangements were made to deal with the fluctuating rate between sterling and francs. There were further complications during the war until the French Administration joined the Free French movement, one being the inconvertibility of the Bank of Indo-China notes. In 1941 a New Hebrides franc, convertible into Australian currency, was set up. In 1944 when the French franc area was separated from the then sterling area, the New Hebrides, though formerly in the French franc area, was left in the sterling area for certain exchange control purposes. In practice, English currency is not in circulation to any extent today.

NIGERIA AND PROTECTORATE (19th Century)

Unit: £ s. d.
Legal tender: British West African coins and notes (10/-, £1).
Other media: Manillas, although officially withdrawn in 1949.
General notes:
i. Final pacification and international delimitation of boundaries, etc., by the early 1900's.
ii. See GAMBIA, General notes (ii) and (iii) and GOLD COAST, General note (iii). Owing to termites, coin is generally preferred to notes in West Africa.
iii. Banks: Bank of British West Africa, Barclays (Dominion, Colonial, and Overseas), National Bank of Nigeria, Agbonmagbe Bank, Nigerian Farmers Bank, and African Continental Bank.

NORTH BORNEO (1846)

Unit: Straits dollar; see, however, General notes (ii) and (iii).
Legal tender: See General notes (ii) and (iii).

General notes:

i. The territory was governed by the British North Borneo Chartered Company 1881-1942. On liberation, it became, with Labuan, a Crown Colony in 1946.

ii. The Company coins and notes were, and are, legal tender. The unit was, and is, the old Straits dollar. But with the war, Malayan currency was introduced and the old currency, though legal tender, is not being reissued but is being redeemed in Malayan currency.

iii. North Borneo is likely to join the Malayan Currency Union; see MALAYA, General note (ii).

iv. Banks: Hong Kong and Shanghai Banking Corporation and Chartered Bank of India, Australia and China.

NORTHERN RHODESIA (1889)

Unit: £ s. d.

Legal tender: Southern Rhodesia Currency Board coins and notes (5/-, 10/-, £1, £5), and also U.K. coins; see General note (ii) below.

Other media: East and South African currency; see General note (ii).

General notes:

i. Originally under the British South Africa Chartered Company, the territory became a Crown Colony in 1924.

ii. Until 1931, the only legal tender was U.K. coins, including the sovereign. In practice, gold did not circulate but instead the notes of the Standard Bank of South Africa and of Barclays (Dominion, Colonial, and Overseas) issued for Southern Rhodesia were used. After the abandonment of the gold standard by the United Kingdom, the legal position of these notes in respect of redemption was obscure, but these notes and Bank of England notes were made legal tender (1934) and parity with sterling was maintained by the banks. In 1939 the Southern Rhodesia Currency Board was set up under the Colonial Sterling Exchange Standard to cover Northern Rhodesia, Nyasaland, and Southern Rhodesia. U.K. coins are accordingly being withdrawn, and U.K. notes are no longer accepted. There is some circulation of East African notes and coins and South African silver, brought in by migrant labor and exchanged at par and repatriated.

iii. Banks: Standard Bank of South Africa and Barclays (Dominion, Colonial, and Overseas).

NYASALAND PROTECTORATE (1878)

Unit: £ s. d.

Legal tender: Southern Rhodesia Currency Board coins and notes (5/-, 10/-, £1, £5), and also U.K. coins; see General note (ii)

Other media: Bank of England and South African notes; see General note (ii).

General notes:

i. The territory was declared a Protectorate in 1889.

ii. Sterling currency was made legal tender in 1894 and Rhodesian silver coin in 1933. Bank of England notes have never been legal tender in Nyasaland. The legal confusion around 1931, when Britain went off gold, required special legislation to clear it up. Indeed, an act of indemnity was needed to absolve those in charge.

iii. See NORTHERN RHODESIA, General note (ii), except for East African reference.

iv. Banks: Standard Bank of South Africa and Barclays (Dominion, Colonial, and Overseas).

ST. HELENA (1669)

Unit: £ s. d.

Legal tender: U.K. coins and Bank of England notes.

Other media: South African coins and notes.

General notes:

i. Bank of England notes were made legal tender in 1949 when legal tender was withdrawn from South African silver coins.

ii. Banks: No facilities, but the Government issues bills of exchange on England at par.

SARAWAK (1839)

Unit: Straits dollar; see General note (iii).

Legal tender: Currencies of Sarawak, Malaya, and British North Borneo Chartered Company; see General note (ii).

General notes:

i. The Rajahship of Sarawak (1841) came under British protection in 1888 and became a Crown Colony in 1946.

ii. Sarawak issued and used its own currency, covered by gilt-edged securities in London, but on liberation only Malayan currency was issued. Sarawak currency is being gradually withdrawn. It is thought there is now no Chartered Company money in actual circulation. See also NORTH BORNEO, General note (ii).

iii. Sarawak is likely to join the Malayan Currency Union; see MALAYA, General note (ii).

iv. Banks: Chartered Bank of India, Australia and China, Overseas Chinese Banking Corporation, and three small Chinese trading banks.

SEYCHELLES (1794) AND DEPENDENCIES (various dates)

Unit: Seychelles rupee and cents.

Legal tender: Local coins and Seychelles Government notes (50¢, R1, Rs5, Rs10, Rs50); see also General note (iv).

Other media: See General note (iv).

General notes:

i. From 1794 to 1810 Seychelles, though a British Colony, was administered as if a French Colony, the last French Governor having become the first British Agent Civil. It was then linked with Mauritius, especially in finance, until 1872, but in 1897-1903 it became a separate Colony.

ii. Its early currency history is, therefore, that of Mauritius; see MAURITIUS, General note (i). As its trade, however, was mostly with gold-using countries, the Mauritius reforms after 1876 applied somewhat awkwardly.

iii. Mauritius notes ceased to be legal tender in 1934, and Seychelles adopted the direct Colonial Sterling Exchange Standard in 1936.

iv. During the war and owing to shortages of Seychelles coins and notes (compare BARBADOS, General note (v)), notes and coins of Ceylon, Mauritius, India, South Africa, and East Africa, then flowing in, were made legal tender. They have now been withdrawn, but as Seychelles copper coins are still in short supply, those of Mauritius remain legal tender.

v. Banks: No banks, but complete banking facilities are afforded by the Government.

SIERRA LEONE (1788) AND PROTECTORATE (various dates)

Unit: £ s. d.

Legal tender: British West African coins and notes (10/-, £1).

General notes:

i. The settlement, mainly of the Sierra Leone Company for freed slaves, became a Crown Colony in 1808 with various extension of boundaries until 1896, and final pacification in the Protectorate in 1899. See also GAMBIA, General note (i).

ii. The original Company money, and later other moneys, were very mixed, and U.K. silver entered into concurrent circulation mostly from the 1840's. The legal currency still remained very mixed until 1912 when the British West African Currency Board was set up under the Colonial Sterling Exchange Standard. U.K. coins are being withdrawn. At times, Bank of England notes have circulated but are not legal tender. See also General notes on GAMBIA, GOLD COAST, and NIGERIA.

iii. Banks: Bank of British West Africa and Barclays (Dominion, Colonial, and Overseas).

SINGAPORE (1819) AND DEPENDENCIES (various dates)

Unit: Malayan dollar.

Legal tender: Malayan currency; see MALAYA, General notes (i-iii).

General notes:

i. Singapore was long a part of the Straits Settlement Colony, together with Penang, Malacca, and Labuan. Penang and Malacca are now in the Federation of Malaya and Labuan in North Borneo. The inclusion of Singapore in the Federation is envisaged. Meanwhile, from 1946, it has been a Crown Colony.

ii. For currency history and present arrangements, see MALAYA, General notes (i-iii).

iii. Banks: 19 main banking concerns and numerous "remittance shops," especially for Chinese remittances.

SOMALILAND PROTECTORATE (1884)

Unit: East African shilling.

Legal tender: East African Currency Board coins and notes (Shs. 5, Shs. 10, Shs. 20, Shs. 100, Shs. 1,000, Shs. 10,000).

Other media: Indian rupees and other Indian coins and notes.

General notes:

i. Pacification of the dervishes was finally achieved in 1921.

ii. The Indian rupee has long been in circulation. The East African currency was introduced during the war by the Military Authorities (see KENYA, General note (iv)). Indian currency is now being gradually replaced by British East African currency (see ADEN, General note (ii)). The territory is but little advanced toward a money economy.

iii. Banks: No facilities except certain Government ones on Aden, and some by Messrs. Cowasjee Dinshaw.

SOUTHERN RHODESIA (1888)

Unit: Southern Rhodesian £ s. d.

Legal tender: Southern Rhodesia Currency Board coins and notes (5/-, 10/-, £1, £5).

Other media: Barclays (Dominion, Colonial, and Overseas) and Standard Bank notes in process of withdrawal.

General notes:

i. Southern Rhodesia was originally part of the territories of the British Chartered South Africa Company (1890) until 1923 when it became a self-governing Colony. Its early currency history is therefore partly that of South Africa.

ii. In 1939 the Southern Rhodesia Currency Board was set up under the usual Colonial Sterling Exchange Standard to cover Southern Rhodesia, Northern Rhodesia, and Nyasaland. For a discussion of its special powers, see text.

iii. Banks: Barclays (Dominion, Colonial, and Overseas) and Standard Bank of South Africa.

SWAZILAND (1888)

Unit: South African £ s. d.

General notes:

i. Swaziland passed to British jurisdiction in 1903 and to the High Commissioner in 1907. See BASUTOLAND, General note (iii).

TANGANYIKA TRUSTEESHIP (1920)

Unit: East African shilling.

Legal tender: East African Currency Board coins and notes (Shs. 5, Shs. 10, Shs. 20, Shs. 100, Shs. 1,000, Shs. 10,000).

General notes:

i. The German Government and local German Company issued coins of Indian standards, and these circulated with Indian coins until their redemption after the setting up of the East African Currency Board in 1921. See KENYA, General notes (ii) and (iii).

ii. Banks: National Bank of India, Standard Bank of South Africa, Barclays (Dominion, Colonial, and Overseas), and Banque du Congo Belge.

TONGA (1900)

Unit: Tongan £ s. d.

Legal tender: U.K., Australian, Fiji, and New Zealand coins, and Tongan Government notes (4/-, 10/-, £1, £5).

General notes:

i. Tonga is a self-governing State under British protection since 1900.

ii. The Tongan Parliament adopted British and Australian coinage in 1906, and in 1935 it adopted the exchange standard system with Australia. Compare FIJI, General note (iii).

iii. Fiji and New Zealand coinage came into general circulation during the war. All four coinages are accepted at their face value.

iv. Banks: No facilities, but the Tongan Treasury remits funds abroad.

TRINIDAD AND TOBAGO (18th Century)

Unit: British West Indian dollar.

Legal tender: U.K. coins, coins and notes of the Board of Commissioners, British Caribbean Territories, Trinidad Government notes, and British Guiana and Barbados Government notes.

Other media: Bank notes of Barclays (Dominion, Colonial, and Overseas), Canadian Bank of Commerce, and Royal Bank of Canada.

General notes:

i. Trinidad and Tobago, along with British Honduras, never adopted £ s. d. units, local or sterling. Their dollar is the descendant of the original Spanish silver dollar. But they did adopt U.K. coins and have used them as exclusive coinage, but see (v) below.

ii. U.K. silver coins are unlimited legal tender, but see (v) below.

iii. See General notes, BAHAMAS (iii) and (iv), the U.S. reference being 1935, and BARBADOS (v).

iv. Banks: Barclays (Dominion, Colonial, and Overseas), Royal Bank of Canada, Canadian Bank of Commerce, and Messrs. Gordon, Grant & Co.

v. Trinidad and Tobago have joined the British Caribbean unified currency system. For details, see Appendix II. Other coins and notes will be withdrawn as circumstances permit.

UGANDA PROTECTORATE (1890)

Unit: East African shilling.

Legal tender: East African Currency Board coins and notes (Shs. 5, Shs. 10, Shs. 20, Shs. 100, Shs. 1,000, Shs. 10,000).

General notes:

i. Uganda became a British Protectorate in 1894.

ii. See KENYA, General notes (ii) and (iii).

iii. Banks: National Bank of India, Standard Bank of South Africa, and Barclays (Dominion, Colonial, and Overseas).

WINDWARD ISLANDS (18th Century)

Unit: British West Indian dollar.

Legal tender: U.K. coins, coins and notes of the Board of Commissioners, British Caribbean Territories, and Trinidad Government notes.

Other media: Bank notes of Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada.

General notes:

i. Sterling £ s. d. units replaced the ancient local £ s. d. and L s. d. units as follows: St. Vincent 1839, Grenada 1840, St. Lucia 1841 (St. Lucia's L s. d. units having been the Livres, sous, and deniers of prerevolutionary France, both the British and French systems having had a common origin in the days of Charlemagne in the 8th Century), Dominica 1842. A proposal was made in St. Lucia in 1888 to make Bank of England notes legal tender, but it was overruled.

ii. Despite the £ s. d. units, the public accounts appear to have been kept in B.W.I. dollars until 1948 when the B.W.I. dollar replaced sterling as the unit. Private accounts have always been kept in B.W.I. dollars.

iii. U.K. silver coins are unlimited legal tender, but see (vi) below.

iv. See also BAHAMAS, General notes (iii) and (iv), the U.S. reference being 1935.

v. Banks: Barclays (Dominion, Colonial, and Overseas) and Royal Bank of Canada.

vi. Windward Islands has joined the British Caribbean unified currency system. For details, see Appendix II. Other coins and notes will be withdrawn as circumstances permit.

ZANZIBAR (1890)

Unit: East African shilling.

Legal tender: East African Currency Board coins and notes (Shs. 5, Shs. 10, Shs. 20, Shs. 100, Shs. 1,000, Shs. 10,000).

Other media: Seyyidieh pice.

General notes:

i. Zanzibar became a British Protectorate in part in 1890, more fully so in 1906, and its control passed from the Foreign Office to the Colonial Office in 1913.

ii. Zanzibar used the Indian rupee and a local note issue based on it until 1936 when the currency link was changed from the rupee to sterling and Zanzibar joined the East African Currency Board. See KENYA, General notes (ii) and (iii).

iii. Banks: National Bank of India, Standard Bank of South Africa, and Messrs. Jetha Lila.

APPENDIX II. Sample Constitutions of Boards

West African Currency Board Regulations

1. The West African Currency Board has been constituted to provide for and to control the supply of currency to the British West African Colonies and Protectorates and Trust Territories (hereinafter referred to as the constituent Territories), to ensure that the currency is maintained in satisfactory condition and generally to watch over the interests of the constituent Territories so far as currency is concerned.

2. The members of the Board and the Secretary are appointed by the Secretary of State.

3. The Board will have power to appoint officers for the discharge of such duties in connection with currency in the United Kingdom or in British West Africa and at such rates of salary as the Board may think fit, subject in each case to the approval of the Secretary of State.

4. The Board is authorized to incur expenditure necessary for the due performance of such duties as are now or may be hereafter assigned to it.

5. The Board will have authority to make all necessary arrangements for the minting of any special coins authorized for circulation in the constituent Territories and to comply with applications for the supply of any coins at the time being legally current in those Territories. Subject to the provisions of these Regulations and of any legislation from time to time in force in the constituent Territories the Board may provide and may issue and re-issue therein notes hereinafter referred to as currency notes.

6. The plates from which the currency notes are printed shall be of such designs and shall bear such devices as the Secretary of State shall approve and shall be prepared by a person selected by the Board. The Board shall be responsible for their safe custody.

7. The currency notes shall be printed on such paper as may be approved by the Board and shall be authenticated by facsimiles of the signatures of the members of the Board for the time being.

8. The Board shall make such arrangements as it may from time to time think necessary or proper for the cancellation of notes withdrawn from further use for the destruction of such cancelled notes and for recording the issue and cancellation of notes.

9. The Board shall issue at its main centres at Accra, Bathurst, Freetown and Lagos, in the constituent Territories to any person who makes demand in that behalf coin or currency notes equivalent to the value (at the rate of Twenty shillings West African currency to One pound sterling) of sums in sterling lodged with the Board in London.

The Board shall pay to any person who makes demand in that behalf sterling in London equivalent to the value (calculated as aforesaid) of coin or currency notes lodged with the Board at its aforesaid centres in the constituent Territories.

Provided that:

i. The Board shall be entitled to levy from any person obtaining currency notes, coin or sterling under these provisions a commission at such rate or rates not exceeding three quarters of one per cent as it may determine from time to time.

ii. The Board may fix such minimum limits of values as it may think fit from time to time for the transactions referred to in this regulation.

iii. No person shall be entitled to receive currency in the constituent Territories or payment in London unless the Board is satisfied that payment of sterling has been made in London or equivalent currency tendered in the constituent Territories as the case may be.

10. Proceeds of the sale of coin and currency notes and all other revenue of the Board shall, after the necessary deductions have been made for all expenses and for any contributions made to the revenues of the British West African Governments under section 16 of these Regulations, be credited to a fund hereinafter referred to as the Currency Reserve Fund. Any losses which may be incurred will be debited to the Fund.

11. The Board may invest its funds in sterling securities of the Government of any part of His Majesty's dominions, or in such other manner as the Secretary of State may approve. The extent to which investments may be made will be left to the discretion of the Board, whose duty it will be to hold, subject to any directions which may be received from the Secretary of State, a proportion of its reserve in a liquid form.

12. The Board shall submit half-yearly to the Secretary of State a statement of the position of the Currency Reserve Fund on the last days of June and December in each year including a Statement of Securities.

13. The Board shall cause to be made up half-yearly and published in the Government Gazettes of the constituent Territories an abstract showing: (*a*) the whole amount of the West African coinage and note

circulations on the last days of June and December in each year, (*b*) the total amount of the Currency Reserve Fund on the said days, (*c*) the nominal value of, price paid for and latest known market price of the securities forming the investment portion of the Reserve Fund.

14. The accounts of all the transactions of the Board will be audited by the Colonial Audit Department.

15. The Board will submit annually for the approval of the Secretary of State a statement of its transactions during the preceding year.

16. The Board may, with the approval of the Secretary of State, pay any sum which it thinks proper out of its income by way of contribution to the revenues of the British West African Governments.

17. When the Board is satisfied, and shall have satisfied the Secretary of State, that its reserves are more than sufficient to ensure the convertibility of the coin and the note issue, and to provide a reasonable reserve against possible depreciation the Board may pay over the whole or part of the surplus amount in aid of the revenues of the British West African Governments.

18. The Regulations defining the constitution, duties and powers of the Board dated 11th July, 1924, are hereby revoked.

19. These Regulations may be cited as the West African Currency Board Regulations, 1949.

A. Creech Jones,
Secretary of State.

2nd September, 1949.

British Caribbean Territories (Eastern Group)

(a) *Inter-Colonial Agreement*

An agreement made between the Governments of the Colonies of Barbados, British Guiana, the Leeward Islands, Trinidad and Tobago, and the Colonies of Grenada, St. Vincent, St. Lucia and Dominica, comprising the Windward Islands.

Whereas it is desired to constitute a Board of Commissioners to provide for and control the supply of currency to the territories administered by the Governments participating in this Agreement:

It is hereby agreed as follows:

1. (1) There shall be constituted a Board of Commissioners of Currency to be styled the "Board of Commissioners of Currency, British Caribbean Territories (Eastern Group)" (hereinafter referred to as "The Board") which shall consist of five members to be appointed by the Secretary of State, the Governors of Barbados, British Guiana, the Leeward Islands, Trinidad and Tobago, and the Windward Islands, each having the right to nominate one such member to represent his respective territory.

(2) The Board shall elect one of its number to be Chairman.

(3) The term of office of the members and the Chairman shall be three years, subject to their continuing resident within the territory they respectively represent. Subject to the foregoing conditions each member shall be eligible for re-appointment.

(4) In addition to the five members appointed under paragraph (1) there shall be an Executive Officer of the Board of which he shall be a member with the title of "Executive Commissioner" and the right to vote. The said Executive Commissioner shall be appointed by the Secretary of State. He shall be responsible, subject to the direction of the Board, for all executive matters connected with the procurement, issue, retirement, distribution and holding of the Board's notes and coin.

(5) The Chairman and members of the Board shall be paid such remuneration and allowances as may from time to time be determined by the Secretary of State.

(6) Any duty devolving and any power conferred on the Board may be discharged or exercised by any three members, and, in the absence of the Chairman elected under paragraph (2), members may for the purpose of any particular meeting elect a chairman *ad hoc*. The Chairman shall have an original and a casting vote.

(7) The Board shall establish its headquarters at Trinidad and offices at such other places as may be required and may employ such agents, officers, and persons as may be required.

(8) If any member of the Board is for the time being unable to act the Governor by whom he has been nominated may appoint a fit person to act in his place during such inability.

(9) The Board and its officers and servants shall be deemed to be public servants for the purpose of the criminal law in force in the territories of the participating Governments.

2. (1) The Board shall have the sole right to issue currency notes and coin in the territories administered by the participating Governments who shall not issue any such notes or coin nor authorize such issue by other persons.

(2) The Board shall assume all the liabilities, obligations and responsibilities of the currency authorities of Barbados, British Guiana and Trinidad and Tobago with respect to the Government currency notes which have been issued and are in circulation on the coming into force of this Agreement. The said currency authorities shall transfer to the Board sterling in London or investments out of the existing respective Note Security Funds to an aggregate market value agreed by the Board to be the equivalent of the amount of the note liability so assumed by the Board.

(3) The Governments of Barbados, British Guiana and Trinidad and Tobago shall take all necessary measures to demonetize and facilitate the withdrawal by the Board of the currency notes issued by their respective currency authorities and in circulation and shall in due course repeal the Ordinances under the authority of which such notes have been issued.

(4) The participating Governments as and when circumstances permit shall demonetize and procure the withdrawal and appropriate disposal, under arrangements with His Majesty's Government in the United Kingdom, of the United Kingdom coin now in current circulation in the territories administered by them.

(5) The notes and coin to be issued by the Board shall be in the following denominations:

Notes	Coin
100 dollars	50 cents
20 dollars	20 cents
10 dollars	10 cents
5 dollars	5 cents
2 dollars	1 cent
1 dollar	½ cent

Provided that notes and coins of other denominations may be issued as required with the approval of the Secretary of State; such notes and coin to be in dollars at the rate of 100 cents for each dollar of the value equivalent to four shillings and two pence of sterling in London.

3. (1) The Board shall establish and maintain a fund to be called "The Currency Fund" (hereinafter referred to as "The Fund") which shall be held in London by the Crown Agents for meeting the redemption of currency and shall not be applied for any other purposes except as provided in this Agreement.

(2) The sterling in London or investments transferred to the Board in accordance with Article 2 (2) of this Agreement shall be held for the account of the Fund which shall be credited with the amount thereof at the agreed aggregate market value.

(3) There shall further be paid into the Fund:

(a) all sterling received in exchange for currency notes or coin;

(b) the proceeds of any transactions under paragraph (6) of this Article, less all expenses incurred in connection therewith.

(4) The Fund may be invested in sterling securities of or guaranteed by the Government of any part of the British Empire (except the participating Governments) or such other securities, as, with the approval of the Secretary of State, may be selected by the Crown Agents:

Provided that a proportion of the Fund shall be held in London in liquid form and such proportion may be determined and varied from time to time with the approval of the Secretary of State by the Board.

(5) The liquid portion of the Fund may be held in cash or on deposit at the Bank of England or in Treasury Bills or may be lent out at call or for short terms in such ways or invested in such readily realizable securities as may be approved by the Secretary of State.

(6) Notwithstanding anything in the preceding paragraphs contained the Board may:

(a) use any coins held for the account of the Fund for the purpose of having them re-minted and coined into current coin;

(b) pay from the Fund the cost of the purchase of metal to be minted into current coin; and

(c) sell any coins held for the account of the Fund provided that the proceeds of any such transactions shall be paid into the Fund.

(7) The value of the Fund for any of the purposes of this Agreement shall be the current realizable value of the whole of the assets held in the Fund, investments of the Fund being valued at the current market price at the time of valuation.

4. (1) The Board shall open and maintain an account to be called the "Currency Fund Income Account" (hereinafter referred to as the "Income Account") into which shall be paid all dividends, interest or other revenue derived from investments or from the employment in any other manner of the moneys of the Fund and all commissions paid to the Board in connection with the issue or redemption of currency notes or coin.

(2) There shall be charged upon the Income Account:

(a) all the expenses other than the expenses referred to in Article 3 incurred by the Board and by the Crown Agents in the preparation, transport, issue, redemption and demonetization of currency notes and coin and the transaction of any business relating thereto;

(b) any expenses incurred by the Board for the protection of the currency against counterfeiting or forgery of coins or notes; and

(c) a sum equal to one *per centum* of the value of the Fund at the end of the year calculated in accordance with Article 3(7) of this Agreement which shall be paid annually into the Fund.

Provided that the Board may with the approval of the Secretary of State direct that any expenditure of an exceptional nature may be charged upon the Fund and not upon the Income Account.

(3) If on the last day in any year there is a surplus in the Income Account it shall be paid to the credit of an account to be called the "British Caribbean Territories (Eastern Group) (Currency Surplus) Account" (hereinafter referred to as the "Surplus Account") to be set up as provided in Article 5 of this Agreement; but if on the last day in any year there is a deficiency in the Income Account it shall be met according to the scale prescribed in Article 5(2) from any sums standing to the credit of the Governments concerned in the Surplus Account or from moneys to be appropriated and paid from the revenues of the Governments. If any Government should default on any payment due under this paragraph, the amount in default may be recovered from any subsequent payment due to that Government out of the Surplus Account as provided in Article 5 of this Agreement.

Provided that:

(a) if on the last day in any year the face value of the currency notes and current coin in circulation exceeds the value of the Fund calculated in accordance with Article 3(7) of this Agreement there shall be paid into the Fund the whole of the said surplus in the Income Account or such part thereof as shall make up the monies of the Fund as aforesaid to an amount equal to the face value of the currency notes and current coin in circulation; and

(b) if on the last day in any year the value of the Fund so calculated exceeds one hundred and ten *per centum* of the face value of the currency notes and current coin in circulation the Board may with the sanction of the Secretary of State direct:
   i. that the whole or part of the excess over one hundred and ten *per centum* shall be transferred from the Fund to the Income Account: and
   ii. that the annual appropriation out of the Income Account of the one *per centum* aforesaid shall be wholly or partially discontinued for so long as it shall appear that the necessity for such annual appropriation no longer exists.

5. (1) There shall be set up a British Caribbean Territories (Eastern Group) (Currency Surplus) Account, into which shall be paid any surplus in the Income Account arising as provided in Article 4.

(2) The participating Governments shall be entitled to share in the Surplus Account according to the following scale:

Trinidad and Tobago.....		55 per cent
British Guiana		25 per cent
Barbados		10 per cent
Leeward Islands:		
Antigua	1.8	
St. Kitts	1.6	
Montserrat	0.6	4 per cent
Windward Islands:		
St. Lucia	2.4	
Dominica	0.9	
St. Vincent	1.2	
Grenada	1.5	6 per cent
		100 per cent

Provided that if, on the expiration of a period of two years of the quinquennial period commencing from the first day of January, 1951, a new scale is agreed upon that new scale should be substituted for the above and shall remain in force until the end of the quinquennial period; but provided further that if at the end of any such quinquennial period no such agreement is reached the scale then in force shall continue in operation for the next quinquennial period.

(3) Each of the participating Governments shall authorize from time to time the Board to pay out of its share of the sums standing to the credit of the Surplus Account its share of such charges in addition to the charges referred to in Article 4 of this Agreement as the Governments may from time to time agree should be so paid.

(4) Any balance remaining in the Surplus Account to the credit of any participating Government at the end of any year after the payment of any charges as provided in paragraph (3) of this Article shall be paid to that Government on demand.

6. (1) If the assets of the Fund should at any time prove inadequate to meet legal demands upon the Board for the conversion of currency into sterling, each participating Government shall be liable to meet any deficiency in the Fund.

(2) If the value of the Fund calculated as provided in Article 3(7) shall at any time be less than the face value of the currency notes and current coin in circulation and in the opinion of the Secretary of State it shall be necessary to make up such deficiency in the Fund either wholly or partly each participating Government shall be liable for the sum which in the opinion of the Secretary of State is required to be paid into the Fund.

(3) Any liability under paragraphs (1) and (2) of this Article shall be apportioned between the participating Governments according to the scale prescribed in Article 5(2).

(4) Should one or more of the participating Governments make default in respect of the above imposed obligation the other participating Governments shall be liable to make good such default each in the proportion which its liability as set out in the scale bears to the total liability of such non-defaulting Governments. Provided that in the event of a default being so made good any sums due thereafter to the defaulting Government or Governments from the Surplus Account shall be paid to the Governments which have made good such defaults in the like proportions until the amount so made good by them has been refunded.

7. (1) The Accounts of all transactions of the Board shall be audited once in every year by such persons and in accordance with such regulations as the Secretary of State may prescribe.

(2) An abstract of such Accounts shall be as soon as may be after such audit published in the *Gazette* of each participating Government.

(3) The Board shall on the first day of each month make up and as soon as may be thereafter published in the *Gazette* of each participating Government, an abstract showing the whole amount of currency notes in circulation on the said day and the average amount in circulation during the previous month.

(4) The Board shall also publish half yearly in the *Gazette* of each participating Government an abstract showing:

(a) the amount of the liquid portion of the Fund;
(b) the nominal value and price paid for and the latest known market price of the securities belonging to the Fund.

(5) The amount of notes in circulation at a particular date shall be deemed to be the total nominal amount of notes issued prior to that date by the Board after deducting the total nominal amount of notes received by the Board prior to that date.

(6) The said abstracts shall from time to time and at least once a quarter be verified by a Board of Survey appointed in accordance with such regulations as the Secretary of State may prescribe.

8. The Government of Trinidad and Tobago, having undertaken to advance such funds as may be necessary to repay preliminary expenses and initial expenditure in connection with the establishment of the unified currency, the Board shall reimburse the Government of Trinidad and Tobago the amount of such advances.

9. Any dispute arising from the interpretation of this Agreement

shall be referred to the Secretary of State whose decision shall be final and binding on all the Governments concerned.

Coins of the Eastern Group of the British Caribbean Territories which are legal tender

Proportion of Dollar for Which Tender	Coin	Standard Weight	Remedy Allowance	Composition
	Part I—Cupro-Nickel	**grains**		
.50	Fifty-cent piece	240	1 piece in 40	Cupro-nickel (Copper 75% Nickel 25%)
.20	Twenty-cent piece	96		
.10	Ten-cent piece	48		
.05	Five-cent piece	24		
	Part II—Bronze			
.01	One-cent piece	87.5		Bronze
.005	Half-cent piece	43.75		

Passed by the Legislative Council this 9th day of June, 1950.

(b) *British Guiana Law Enacting Above*

AN ORDINANCE to implement an agreement to provide for a uniform currency in the Eastern Group of the British Caribbean territories.

[17th June, 1950.]

WHEREAS government currency notes are issued in the Colony of Barbados under the authority of the Government Currency Notes (Barbados) Act, 1937, in the Colony of British Guiana under the authority of the Government Currency Notes Ordinance, 1937, and in the Colony of Trinidad and Tobago under the authority of the Government Currency Notes Ordinance;

AND WHEREAS, by enactments of the Colonies of Barbados, British Guiana, and Trinidad and Tobago, government currency notes issued in any one of them are legal tender in all of them for the payment of any amount;

AND WHEREAS, by enactments of the Colonies of the Leeward Islands and of the Colonies of Grenada, St. Vincent, St. Lucia and Dominica comprising the Windward Islands, government currency notes issued in the Colony of Trinidad and Tobago are legal tender in the Leeward Islands and in the Windward Islands for the payment of any amount;

AND WHEREAS, the Currency Conference held at Barbados in May 1946, recommended in their Report that a unified system of currency notes and coin for the Eastern Group of the British Caribbean Colonies, that is to say, Barbados, British Guiana, the Leeward Islands, Trinidad and Tobago, and Grenada, St. Vincent, St. Lucia, and Dominica comprising the Windward Islands, be established;

AND WHEREAS, the Legislatures of the respective Colonies comprising the Eastern Group of the British Caribbean Colonies have, by resolution, approved of the establishment, in accordance with the recommendations contained in the Report of the Currency Conference of a unified system of currency notes and coin for the Eastern Group of the British Caribbean Colonies;

AND WHEREAS, the recommendations of the Currency Conference are embodied in the Agreement the terms of which are set out in the First Schedule to this Ordinance:

Be it therefore enacted by the Governor of British Guiana, with the advice and consent of the Legislative Council thereof, as follows:

.....

3. The provisions of the Agreement set out in the First Schedule hereto, made between the Governments of the Colonies of—

(a) Barbados,
(b) British Guiana,
(c) the Leeward Islands,
(d) Trinidad and Tobago,
(e) Grenada, St. Vincent, St. Lucia and Dominica comprising the Windward Islands—

shall have the force of law as if enacted in this Ordinance.

.....

6. (1) Currency notes shall be legal tender in the Colony for the payment of any amount.

(2) Coin shall, if the coins have not been illegally dealt with, be legal tender to an amount not exceeding in the case of coins of a denomination of not less than twenty cents, ten dollars, and in the case of coins of a lower denomination, two dollars.

.....

7. (1) The Board shall issue on demand to any person desiring to receive currency notes in the Colony, currency notes to the equivalent value (at the rate of one dollar for four shillings and two pence) of sums in sterling lodged with the Crown Agents in London by the said person, and shall pay on demand through the Crown Agents to any person desiring to receive sterling in London the equivalent value calculated as aforesaid of currency notes lodged with the Board in the Colony by the said person:

Provided that—

(a) no person shall be entitled to lodge with the Crown Agents or the Board as the case may be less than such minimum sum as may from time to time be prescribed for the purpose of obtaining currency notes or sterling as the case may be; and

(b) the Board shall be entitled to charge and levy from any person obtaining currency notes or sterling commission at such rate or rates as the Board may think fit, not exceeding three quarters *per centum* and in addition the cost of any telegrams sent by the Board or by the Crown Agents in connection with any transfer as above described.

(2) The Board may, at its option, issue and receive coin in the same manner and subject to the same conditions as are prescribed in subsection (1) of this section for the issue and receipt of currency notes.

.....

10. (1) On the commencement of this Ordinance in so far as it relates to currency notes no person shall draw, accept, make or issue any bill of exchange, promissory note or engagement for the payment of money payable to bearer on demand or borrow, owe, or take up any sum or sums of money on any bill of exchange, promissory note or engagement for the payment of money payable only to bearer on demand of any such person:

Provided that—

(a) cheques or drafts payable to bearer on demand may be drawn on bankers or agents by their customers or constituents in respect of moneys in the hands of these bankers or agents held by them at the disposal of the person drawing such cheques or drafts; and

(b) bank notes issued before the commencement of this Ordinance by banks duly authorized by law so to do shall be exempt from the operation of this section subject to the provisions of subsection (1) (c) of section four.

(2) Any person contravening the provisions of this section shall, notwithstanding anything to the contrary in any other law, be liable on summary conviction to a fine of two hundred and fifty dollars or to a fine equal to twice the amount of the bill, note or engagement in respect whereof the offence is committed whichever is the greater notwithstanding that the amount of such fine may be in excess of the ordinary jurisdiction of a magistrate's court.

(3) A prosecution under this section shall not be instituted except by the Board or by an agent duly authorized by the Board in writing.

.....

13. Nothing in this Ordinance shall be construed as affecting any rights which Barclays Bank (Dominion, Colonial and Overseas), formerly the Colonial Bank, may have at the commencement of this Ordinance to issue or re-issue bank notes in the Colony.

.....

15. (1) This Ordinance, in so far as it relates to currency notes, shall come into operation on such date as the Governor shall by Proclamation published in the *Gazette* appoint.

(2) This Ordinance, in so far as it relates to coin, shall come into operation on such date as the Governor shall by Proclamation published in the *Gazette* appoint.